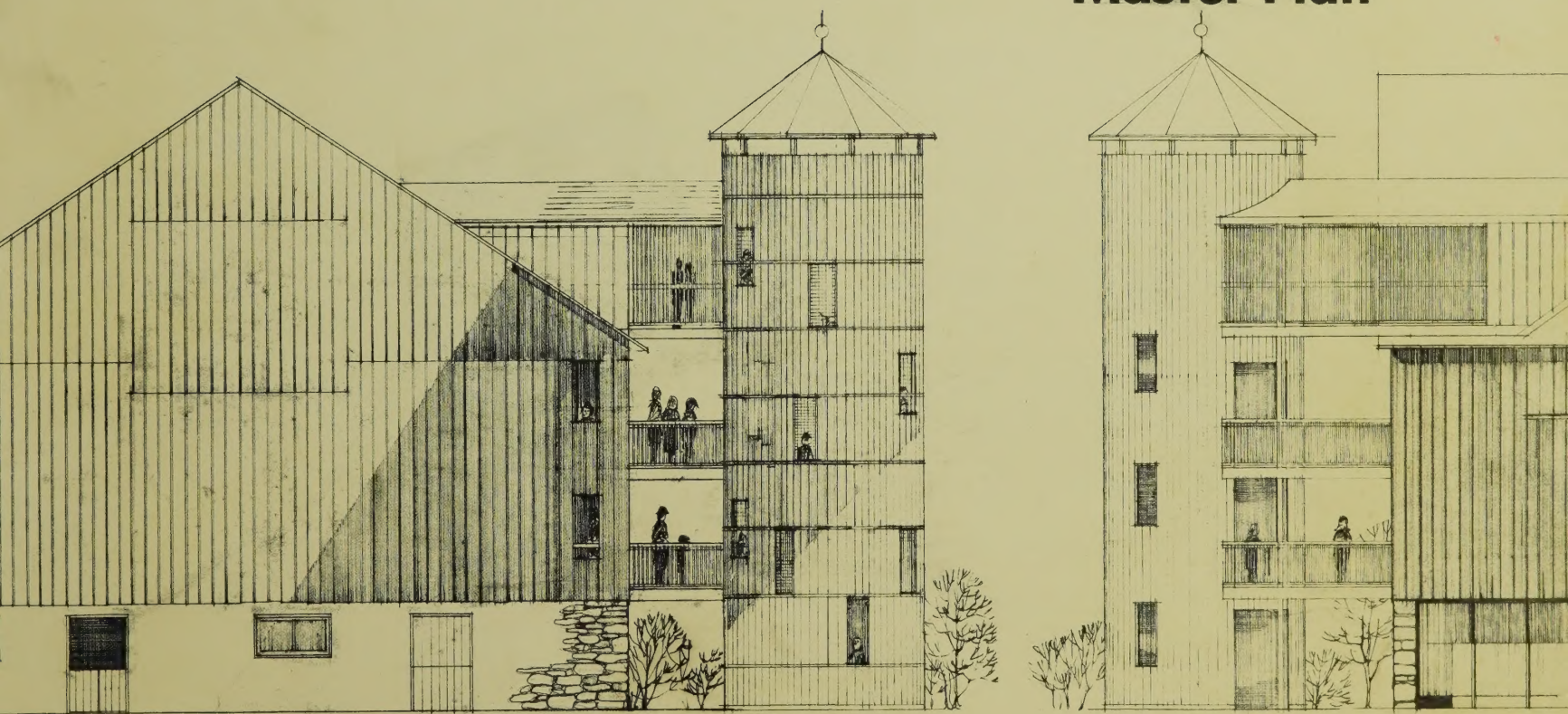


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Hamilton Region Conservation Authority

Valens Conservation Area

Master Plan



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Consulting Engineers • Planners
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YOUR FILE

26 July 1988

Hamilton Region Conservation Authority
P.O. Box 7099
838 Mineral Springs Road
Ancaster, Ontario
L9G 3L3

Attention: Mr. R. Chrystian,
Director of Planning

Christie and Valens Master Plans

Dear Sirs:

We are pleased to submit 30 copies of each of the Christie Conservation Area Master Plan, the Valens Conservation Area Master Plan and the Master Plan Appendices.

We have enjoyed working on this challenging study and look forward to implementation of the Plans.

Yours truly,

M.M. DILLON LIMITED

A handwritten signature in dark ink, appearing to be "J.R. Balfour", written over a light-colored background.

James R. Balfour, P.Eng., MCIP
Project Manager

/ch
Encl.

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SUMMARY OF RECOMMENDATIONS

The Master Plan for Valens Conservation Area incorporates a range of new facilities aimed at attracting new day visitors and encouraging (new and existing) campers to stay longer.

A children's splash pool, outdoor adventure playground, volleyball and tennis courts and baseball diamond provide recreational opportunities for all visitors. A tented recreation pavilion, indoor picnic pavilion and farm yard children's play centre are facilities that can also be used during inclement weather.

The entrance and site orientation facilities are reorganized and improved. The site's original stone farm house and barns will provide the focus for activities in a turn of the century farmstead setting. The stone farm house will be the administration headquarters with a main office open to visitors for interpretive displays and services. A 20 seat tea room with an outdoor terrace is also proposed for the house. The interior of a stone building located north of the house will be modestly renovated to be used as a supply store for campers. The historic two-storey log cabin however remains unchanged, complementing this focus of heritage buildings.

The existing barn will be used as a children's play centre with ladders, ropes, pulleys, nets, tires and hay. A new silo will contain a spiral slide accessible by catwalks in the barn. The silo will also be a major architectural focus for the Conservation Area reinforcing the rural character of the site.

All of these new facilities are proposed for the south side of the reservoir, maintaining the north side for such activities as hiking, bird watching, nature interpretation and fishing. An extensive trail system with interpretive signs is planned throughout the site.

Part of the open area north of the reservoir is proposed for a group camp site for special user groups, if demand warrants.

The proposed development will not have any effect on the resource management recommendations contained in the 1973 Fish and Wildlife Management Plan.

The preliminary capital cost for the proposed development is approximately \$2.8 million. Development will be phased over at least 5 years.

The expansion of existing development in the Conservation Area proposed in this Master Plan update does not constitute "new" development or "significant" development. It is, therefore, not considered to be subject to Section 5(i) of the Environmental Assessment Act.

Development proposed in the Master Plan is considered compatible with local and regional land use designations. Being within a designated Environmentally Sensitive Area, any impacts on the natural environment from development will be avoided or mitigated.

1. INTRODUCTION

1.1 Study Area

The Valens Conservation Area, owned and operated by the Hamilton Region Conservation Authority, is a 284 ha site in the Town of Flamborough (Figure 1).

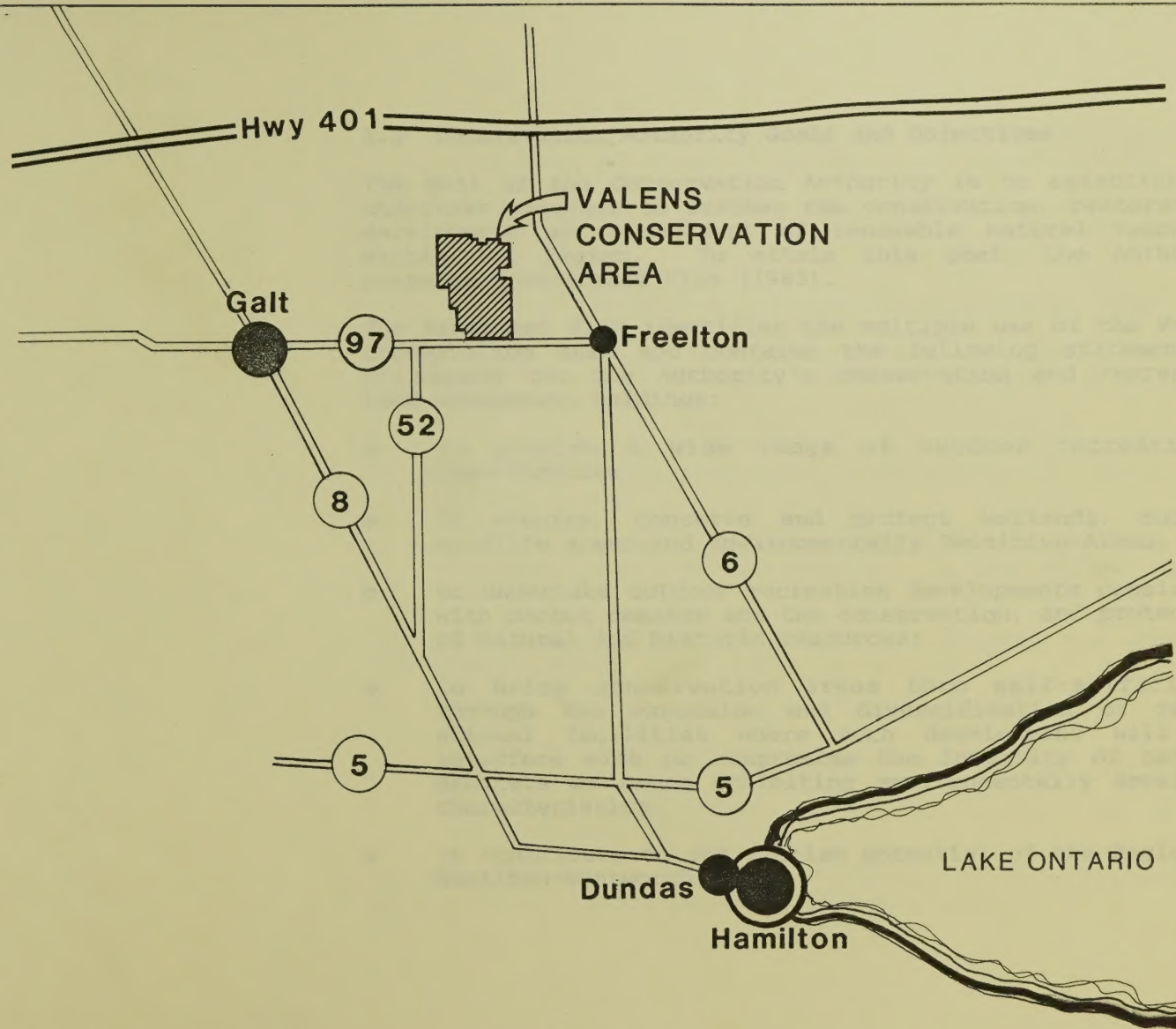
The site was purchased by the Authority in 1962 for construction of a reservoir on Spencer Creek for stream flow augmentation, flood control, and recreation purposes. The Conservation Area was opened to the public in 1968 with a beach, concession, change house and washrooms, picnic areas and hiking trails. In 1971, the Authority added overnight campsites.

1.2 Study Purpose

In 1985, the Authority reviewed its attendance figures for the 1974 to 1985 period. While attendance figures at Valens increased annually, operating costs still exceeded revenues. This was particularly evident since the introduction of market value assessment.

The Authority is committed to a user pay philosophy and follows a management strategy whereby all revenue producing areas are operated on a break-even or profit-making basis. The 1978 Master Plan was therefore re-evaluated with the intent of developing a new Master Plan geared towards attracting greater numbers of visitors and potentially operating at a profit.

Specific Master Plan objectives are included in the Terms of Reference for the Study (Appendix 1).



Location Map

Figure 1

VALENS CONSERVATION AREA

HAMILTON REGION CONSERVATION AUTHORITY

1.3 Conservation Authority Goals and Objectives

The goal of the Conservation Authority is to establish and undertake programs to further the conservation, restoration, development and management of renewable natural resources within its Region. To attain this goal, the Authority prepared a Watershed Plan (1983).

The Watershed Plan identifies the multiple use of the Valens Conservation Area and contains the following statement of philosophy for the Authority's conservation and recreation land management holdings:

- o to provide a wide range of outdoor recreational opportunities;
- o to acquire, conserve and protect wetlands, natural wildlife areas and Environmentally Sensitive Areas;
- o to undertake outdoor recreation developments consistent with market demands and the conservation, and protection of natural and historic resources;
- o to bring conservation areas into self-sufficiency through the expansion and diversification of recreational facilities where such development will not interfere with or compromise the integrity of natural habitats or areas exhibiting environmentally sensitive characteristics;
- o to contribute to the tourism potential of the Region of Hamilton-Wentworth;

- o to cooperate and collaborate with the private sector... to expand the range of recreational opportunities; and
- o to negotiate mandates with other public agencies to assume management and/or development responsibilities.

1.4 Goals of the Valens Conservation Area Master Plan

The goals directing this Master Plan were based on those contained in the 1978 Conservation Area Master Plan. They were to:

- o Provide recreation facilities consistent with the conservation/management of the natural habitat on Spencer Creek.
- o Maintain water management benefits which have been realized since the construction of the Valens dam and reservoir.

The goals were expanded to reflect the purpose and intent of the present Master Plan update by adding:

- o Balance revenue with operating costs.
- o Conserve and manage the natural and heritage resources.
- o Encourage an awareness and appreciation of the natural and heritage resources.

These goals are compatible with the Authority's statement of philosophy for their water management holdings.

1.5 Study Team

The preparation of the Master Plan was directed by a seven member Steering Committee representing the:

- o Hamilton Region Conservation Authority;
- o Town of Flamborough;
- o Niagara Escarpment Commission;
- o Ministry of Natural Resources; and
- o Ministry of Tourism and Recreation.

M.M. Dillon Limited prepared the Master Plan. Their sub-consultants, Stevenson Kellogg Ernst & Whinney Management Consultants (formerly Thorne Stevenson & Kellogg), were responsible for the market, economic and financial analysis.

2. STUDY PARTICIPATION

The participation of agencies, individuals and the public was an important component of this study. In September 1986, notification of project start-up and requests for comments were sent to several government agencies, neighbourhood associations, interest groups and local tourist-related business operators. The list of agencies and groups is included in Appendix 2.

Interviews were held with several interest groups to obtain information on needs and preferences for facilities in the area. A summary of our interviews is contained in Appendix 2.

Two public open houses were held at the Beverly Community Centre in Rockton. Public notification of the open houses was made through the local newspaper and radio and by direct mail to approximately 100 households.

The first public open house was held on 18 September 1986. The purpose of the open house was to:

- o obtain suggestions for future use;
- o discuss concerns about existing and possible uses; and
- o outline the study objectives and schedule.

A total of 19 people attended.

The purpose of the second public open house held on 26 March 1987, was to present the concepts, and the preferred plans and sketches. A total of 44 people attended and 11 written submissions were received. An Authority staff report on comments received at the meeting is included in Appendix 2.

The Full Authority and members of the Conservation Areas Advisory Board were kept informed of the study progress. The following meetings were held with the Authority's Conservation Areas Advisory Board:

- 23 October 1986
- 25 November 1986
- 19 February 1987
- 29 April 1987

A tour of the site was held for members of the Advisory Board and Full Authority on 16 April 1987.

A final presentation was made to both the Advisory Board and Full Authority on 29 April 1987, leading to adoption of the Master Plan (7 May 1987).

3. METHOD

Figure 2 depicts the method used to complete the Master Plan. There were 5 major phases in the Study:

- o inventory and analysis;
- o identification of development components;
- o alternative concepts;
- o concept evaluation; and
- o master plan.

During the inventory and analysis phase, data was assembled on:

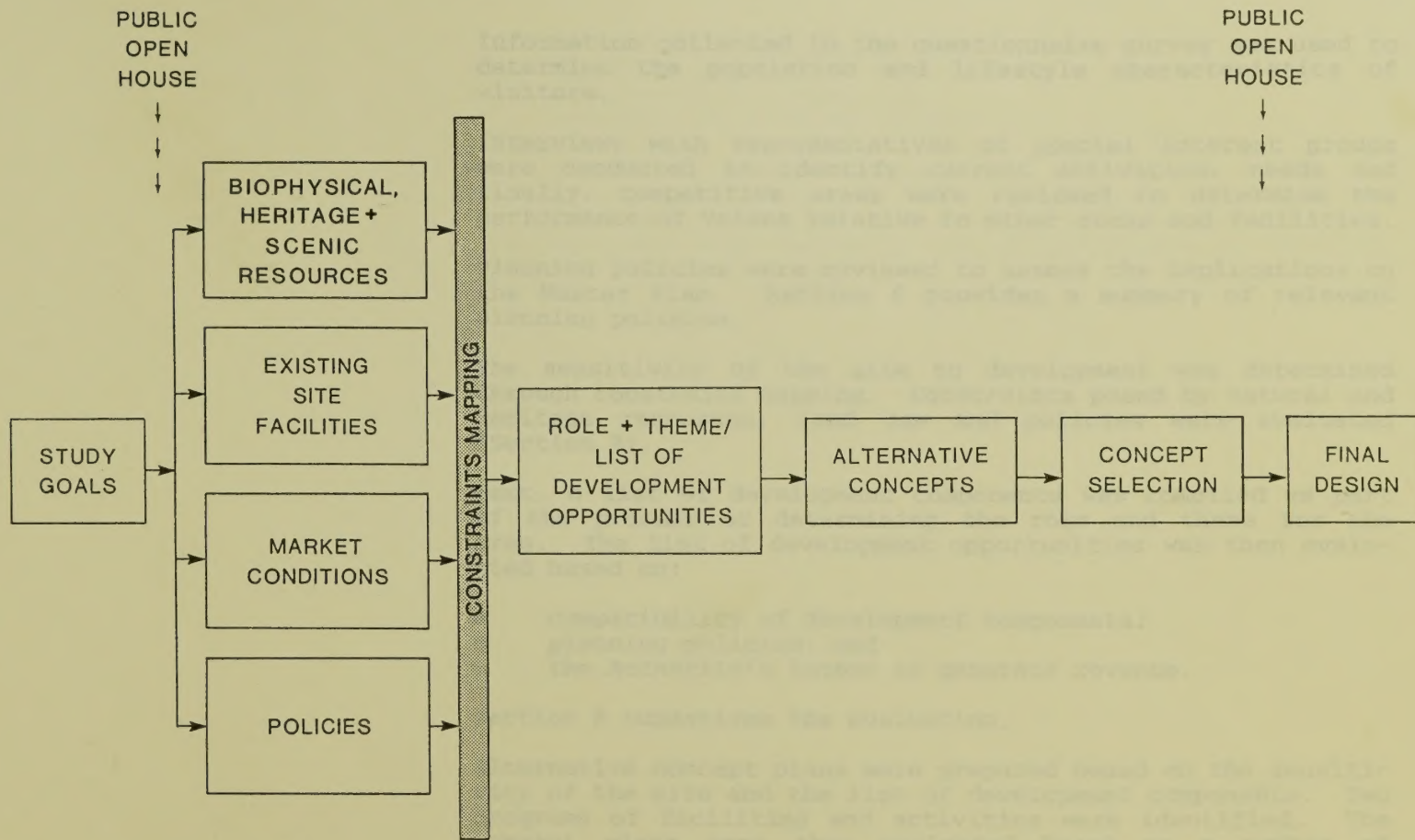
- o biophysical, heritage and scenic resources;
- o existing site facilities and uses;
- o market conditions; and
- o policies.

The Authority has an extensive data base on the site's resources and facilities. Information was therefore collected from existing sources, supplemented with field work where necessary. Section 4 summarizes existing site conditions.

Market conditions (Section 5) were examined using the following sources:

- o demographic analysis of visitors to Hamilton-Wentworth;
- o questionnaire survey of visitors (fall 1986);
- o interviews with special interest groups; and
- o profiles of competitive areas.

A demographic analysis of visitors to Hamilton-Wentworth was completed to characterize the typical visitor to the Region.



Summary of Methodology

Figure 2

Information collected in the questionnaire survey was used to determine the population and lifestyle characteristics of visitors.

Interviews with representatives of special interest groups were conducted to identify current activities, needs and finally, competitive areas were reviewed to determine the performance of Valens relative to other areas and facilities.

Planning policies were reviewed to assess the implications on the Master Plan. Section 6 provides a summary of relevant planning policies.

The sensitivity of the site to development was determined through constraint mapping. Constraints posed by natural and heritage resources, land use and policies were evaluated (Section 7).

Next, a list of development components was compiled as part of the process of determining the role and theme for the area. The list of development opportunities was then evaluated based on:

- o compatibility of development components;
- o planning policies; and
- o the Authority's intent to generate revenue.

Section 8 summarizes the evaluation.

Alternative concept plans were prepared based on the sensitivity of the site and the list of development components. Two programs of facilities and activities were identified. The concept plans were then evaluated based on a number of factors:

- o user appeal;
- o spectator appeal;
- o integration with existing facilities;

- o potential for year round use;
- o compatibility with site character;
- o environmental impact; and
- o potential to generate revenue.

The preferred concept was selected and developed as the Master Plan (Section 10). Design guidelines were developed to direct site planning and detailed design (Section 11). Capital costs were estimated and an implementation schedule prepared (Sections 12 and 13).

4. EXISTING SITE CONDITIONS

4.1 Introduction

Valens has provided for a variety of recreation and conservation education opportunities since it opened to the public. Activities include:

- o picnicking;
- o swimming;
- o camping (summer and winter);
- o hiking;
- o boating and canoeing;
- o fishing;
- o skating;
- o cross-country skiing;
- o snowshoeing; and
- o hunting.

A natural history interpretive program is offered to campers during the summer.

Waterfowl hunting has become a significant fall activity. In an effort to improve fish and wildlife habitat for both aesthetic and consumptive use, a comprehensive program was initiated in 1974. Management techniques have included:

- a) planting of hedgerows and grains for food and cover;
- b) partial clearing of pine plantations and marshes to encourage more "edge" habitat; hence more wildlife productivity;
- c) construction and erection of nest boxes;
- d) selective cutting of mature forest stands (to increase food for ungulates);

- e) strip mowing of grassland; and
- f) planting fast-producing trees.

4.2 Biophysical Resources

The 76 ha (full capacity) Valens reservoir was constructed primarily to augment flow through the Spencer Creek during drought or regular seasonal lows. It also provides delayed runoff downstream during periods of intense rainfall or snowmelt. The wooded wetlands and marsh north of the reservoir act as a ground water recharge area.

Topography surrounding the reservoir is typical of post-glacial and glacio-fluvial terrain. Features include raised shorelines, drumlins, eskers and moraines. The numerous soil types (at least nine have been identified) reflect the diverse geologic processes that have played a part in the formation of the area.

The ecology of the site is similar to that found in the Beverly and Fletcher Creek swamps. The most regionally significant fauna of the site are associated, either directly or indirectly (i.e. food source) with the wetlands and aquatic habitats.

There is a developing cattail marsh around the perimeter of the reservoir. Many of the other vegetation communities on-site are wetland ecosystems. There is a lowland forest swamp in the northwest corner of the site and along the south side of the drumlin. A sedge meadow exists west of the site entrance road. The campground and much of the north side of the reservoir is coniferous plantation. The 1978 Master Plan contains a detailed description of the site's biophysical resources.

The Valens Conservation Area is designated as an Environmentally Sensitive Area (ESA) in the Region of Hamilton-Wentworth and Town of Flamborough Official Plans. The property fulfills three criteria for establishing ESA's:

- o unusual habitat with limited representation in a municipality, Ontario or Canada or a small remnant of a particular habitat which has virtually disappeared in the municipality;
 - . the reservoir provides habitat for Northern Pike, green sunfish, and large mouth bass;
- o habitat for Regionally, Provincially or Nationally rare or endangered species
 - . provides habitat for Pickerel Frog, Least Bittern, Long-Eared Owl, Cliff Swallow; and
- o location of area, combined with its natural features make it suitable for scientific research and conservation education
 - . presence of the Conservation Area, associated facilities, variety of landscapes and biological communities provides a good opportunity for conservation education.

4.3 Existing Facilities

Major existing site facilities include:

a) Entrance

A stone gatehouse located on the entrance drive controls access to all areas south and west of the reservoir. The low roof overhang creates problems for visitors driving camper vans.

b) Park Administration Headquarters

The original farm buildings of the property have been converted into the administration and maintenance headquarters. The complex of buildings include a stone farmhouse (superintendent's residence), a barn and sheds. Three other buildings are used for storage.

c) Log Cabin

The last surviving two storey log house in Wentworth County was acquired and reconstructed at Valens by the Authority. Located immediately south of the park administration headquarters, this building now houses an historic display.

d) Beach House

A building located north of the beach contains change rooms, washrooms and a small food concession. The adjacent sand beach fronts onto a chlorinated swimming area separated by a curtain from the rest of the reservoir.

e) Group Picnic Pavilion

A stone and wood picnic pavilion is located near playing fields north of the park entrance. This building has been enclosed for year-round use.

f) Overnight Camping

Camping is provided in 152 unserviced sites and three group sites. Associated facilities include running water, a pump out, an adventure playground and washrooms/showers. The washrooms are heated for winter use.

g) Assistant Superintendent's Residence

A farm house located in the southeast corner of the site is occupied by the assistant park superintendent.

4.4 Circulation and Parking

The main internal park road extends from the entrance to the camping area. Secondary roads branch off to:

- a) park superintendent's house and log cabin;
- b) picnic pavilion and sports fields;
- c) beach house; and
- d) boat launch.

Access to the north half of the conservation area off the 10th Concession is controlled by a gate.

4.5 Events Programing

Special events currently held at the conservation area include:

- o Valens ice cutting bee;
- o retriever trials;
- o ice fishing derby; and
- o annual bass and pike fishing derby.

4.6 Design Considerations

The dominance of water and the concentration of development on the south side of the site provide the visitor with a

strong sense of orientation and containment. The following are some of the weaknesses in the present design and development of the site:

- a) The sense of entry is fragmented by the separation of the gatehouse from the activities surrounding the superintendent's house and log cabin.
- b) Lack of space for park administration functions.
- c) Lack of stacking space on the park entrance road for vehicles.
- d) Lack of facilities for year round use of the site.
- e) The low profile of the gatehouse windows cause operational problems as a result interference of trucks and vans with the roof overhang and exhaust fumes inhaled by gatehouse staff.

These design considerations will be addressed in the Master Plan.

5. MARKET CONDITIONS

This section summarizes the market research detailing:

- o the demand for recreation activities and facilities in the Hamilton-Wentworth region;
- o the profiles of the current and expected market for the Valens Conservation Area; and
- o facilities competing with the Valens Conservation Area.

5.1 Method

Information was collected from a variety of primary and secondary sources. These include:

- o an on-site questionnaire survey of Valens visitors;
- o interviews with special interest groups using the area (Appendix 2);
- o interviews with key individuals in public and private recreation and tourism operations, including other conservation authorities (Appendix 2); and
- o secondary sources such as national census, provincial recreation and tourism studies, and independent business analysis.

5.2 Existing Use

In this section, statistical data on the size and profile of Valen's existing market is reviewed. Profiles of competing facilities are also provided.

5.2.1 Current Attendance

Over 92,000 visitors came to the Valens Conservation Area in 1985. That attendance was 13% lower than the average annual attendance for all HRCA parks and over 12% higher than the overall average annual attendance at conservation areas in Halton, Hamilton, Metropolitan Toronto and Niagara regions as shown in Table 1.

Table 1: Comparison of Attendance at Conservation Areas

<u>Conservation Authority</u>	<u>Annual Attendance</u>	<u>No. of Conservation Areas</u>	<u>Average No. of Visitors/Area</u>
Halton	424,778	5	84,956
Hamilton	740,500	7	105,786
Metro Toronto	847,316	12	70,610
Niagara	265,050	4	66,262

Over 90% of all visitors to the Hamilton-Wentworth Region stay for less than 3 days. On average, one in every four visitors is a new visitor and approximately 7% of these visitors reported they are likely to return within the next two years.

Table 2: Average Length of Stay in
the Hamilton-Wentworth Region

	<u>%</u>	<u>Total %</u>
1 day or less	72.6	72.6
2-3 days	18.1	90.7
4-7 days	2.1	92.8
8-14 days	0	92.8
Over 2 weeks	7.2	100.0

5.2.2 Visitation Pattern

Over 75% of respondents have previously been to Valens. More importantly, almost one quarter of the visitors come to Valens more than 4 times each season.

Table 3: Visitation Pattern

	<u>%</u>	<u>Total %</u>
More than 4 times	24.9	24.9
More than 2 times	17.8	42.7
Once this season	20.9	63.6
Once in two years	2.7	66.3
Only once before	8.9	75.2
Never before	24.9	100.1*

* More than 100% because of rounding

5.2.3 Group Size

A visit to Valens is not, for the most part, a solitary experience. Only 5.6% of respondents indicated visiting the

area alone. The majority of visitors come to the site with their families or as part of a group.

Table 4: Visitor Pattern

	<u>%</u>	<u>Total %</u>
Alone	4.4	4.4
With one other person	21.4	25.8
With two or more	9.0	34.8
With family	43.9	78.7
As part of group	21.4	100.1*

* more than 100% due to rounding.

5.2.4 Age Profile

Valens appeals to people in their 20's and 30's. Over two-thirds of the visitors were in this age group.

Table 5: Age Analysis of Visitors

	<u>%</u>	<u>Total %</u>
Under 15	3.2	3.2
15 to 20	5.0	8.2
21 to 25	14.5	22.7
26 to 30	17.6	40.3
31 to 39	36.2	76.5
40 to 49	14.0	90.5
50 to 59	3.6	94.1
60 to 69	5.0	99.1
70 +	0.9	100.0

5.2.5 Income Profile

The Conservation Area tends to attract high income earners. Over 68% of the respondents indicated earnings over \$25,000. As well, 25% had a household income greater than \$40,000.

Table 6: Household Income

	<u>%</u>	<u>Total %</u>
Under \$12,000	12.3	12.3
\$12,000 to \$14,999	3.9	16.3
\$15,000 to \$19,999	7.3	23.6
\$20,000 to \$24,999	7.9	31.5
\$25,000 to \$29,999	20.8	52.3
\$30,000 to \$39,999	21.9	74.2
\$40,000 to \$49,999	10.7	84.9
\$50,000 and over	15.2	100.0

5.2.6 Purpose of Visit

Forty-two percent of the visitors to Valens cited family/outing or picnicking as the main purpose of their visit. Enjoying nature and scenery (12.8%) and water sports (13.4%) were also important reasons for visiting the area. Almost 13% of the visitors came for camping.

Table 7: Reason for Visiting

	<u>%</u>	<u>Total %</u>
Scenery and Nature	12.8	12.8
Water Sports	13.4	26.3
Fishing	7.4	33.7
Camping	12.9	46.6
Picnic	20.8	67.4
Family Outing	21.2	88.6
Organized Activity	8.4	97.0
Educational	1.4	98.4
Other	1.7	100.0

5.2.7 Changes

Over half of the visitors (56.1%) felt that changes should be made to the park. Improvements to the swimming areas and the addition of attractions and facilities were most frequently suggested by the respondents.

Special interest groups provided a wide range of input on their needs. Generally, these groups wanted facilities for social and/or educational events. Educational programming seemed to be the slightly more popular choice.

Respondents were asked to state their likes and dislikes of Valens. The main reasons that the area is liked are:

- o clean/fresh air;
- o swimming/beach;
- o scenery and nature; and
- o abundance of space.

Interestingly, the swimming and beach area was also mentioned as the most disliked aspect of the site. Another common

complaint centred on the distances to/from the parking facilities.

5.3 Competing Facilities

Parks are the most popular recreational sites in the Hamilton-Wentworth area. Active parks may provide 33.3% of all recreation opportunities. Passive parks may provide a further 42.9%. The following is an inventory of private and public recreation facilities in Hamilton-Wentworth. Appendix 3 includes a list of all facilities.

Table 8: Recreation Facilities in Hamilton-Wentworth

<u>Type of Facility</u>	<u>Number</u>
Recreation Centres	52
Parks - Active	98
- Passive	67
Curling Clubs	5
Golf Courses	28
Tennis Facilities	43
Pools - Indoor	16
- Outdoor	12
Arenas	19
Athletic Clubs	24
Amusement Parks	12

The strongest competitors to Valens are private facilities. Over 35% of the respondents stated that they have also visited private parks and campgrounds in the current season. Of course, this figure does not include those people who have never visited Valens. The Conservation Area must compete with private sites offering similar recreation experiences. Upgraded and new facilities will be required to remain

competitive. However, unless prices are increased for overnight passes or operating costs decreased, future development of campsites is not recommended. The operating expenses at HRCA campsites are estimated to be 95.6% of gross revenues. At other conservation areas, operating expenses also generate a significant portion of deficits. This finding emphasizes the need to encourage increased day-use at Valens.

5.4 Potential Market

The survey of Valens visitors revealed the market has a number of segments. For purposes of analysis, the market is considered to be composed of a resident segment and a tourist segment.

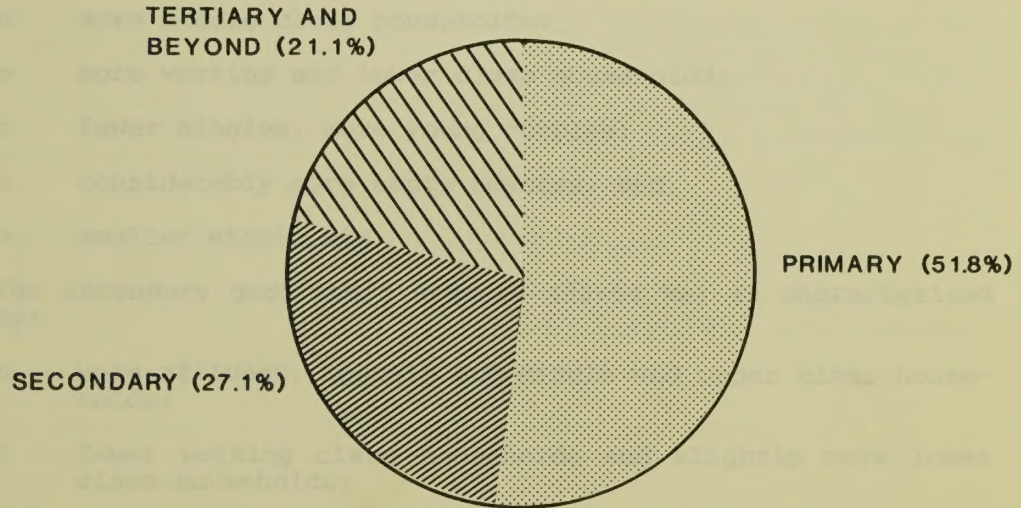
5.4.1 The Resident Segment

More than 86% of visitors to Valens live within a 110 km radius, which is a region with a population of 5,178,000. Realistically, however, only a portion of this market can be expected to visit the Conservation Area.

The local market, or service area, can be divided into three segments: primary (within a 32 km radius); secondary (from 32 to 64 km radius); and tertiary (from 65 to 110 km radius). Proximity affects visitation to Valens. People closest to the Conservation Area are more likely to be attracted to it. At present, nearly three-quarters of the visitors to Valens reside in the primary geographic segment.

The population of the primary market is 791,000. The estimated accessible population is 409,700 based on the finding that 51.8% of the visitors to Valens reside in Hamilton-Wentworth. Figure 3 shows the accessible market.

Figure 3: Valens Visitors - Accessible Market



Overall, the service area is characterized by:

- o more affluent, upscale and middle and upper class households;
- o fewer working class households but more lower class households, empty nesters, and older and retired; and
- o greater ethnic mix.

The primary geographic segment (within 32 km) is characterized by:

- o fewer affluent households;
- o more middle class households;
- o more working and lower class households;
- o fewer singles, more young couples;
- o considerably more empty nesters; and
- o smaller ethnic mix.

The secondary geographic segment (33-64 km) is characterized by:

- o more affluent, upscale and middle and upper class households;
- o fewer working class households and slightly more lower class households;
- o far fewer singles and older and retired; and
- o fewer empty nesters and ethnic households.

The tertiary geographic segment (65-110 km) is characterized by:

- o fewer affluent households but more upscale, middle and upper class households;
- o fewer working class households but more lower class homes;

- o more singles and young couples, empty nesters and older and retired; and
- o greatest ethnic mix of entire trade area.

Based on Ministry of Tourism and Recreation information, roughly 470,000 people in Hamilton-Wentworth participate in recreation activities. On average, each resident in the primary market areas are involved in some form of recreation. The top five activities can be enjoyed in a conservation area, as illustrated in Table 10.

Table 10: Recreation Participation Rates

<u>Activity</u>	<u>% Average Rate of Participation</u>	<u>Number of Participants</u>
Walking	24	98,400
Bicycling	22	90,200
Calisthenics	13	53,300
Swimming	11	45,100
Jogging/Running	7	28,700

Households in the service area spent \$190 on average for the use of recreation facilities. The Ontario average is \$150 - a difference of 26.7%. This finding suggests that the service area is generally composed of recreationally involved people. In other words, the target market tends to prefer physically active pursuits.

5.4.1.1 Population Projections

Demands upon the Conservation Area generally may continue to escalate as south-central Ontario's population grows. The urban expansion of Hamilton and the even greater population

growth in the Halton, Peel and Waterloo regions could be particularly important in the future. Table 11 identifies the potential impact of these trends.

Table 11: Forecast of 10 Year Population Growth

<u>Region</u>	Population (1986) 000's	Forecast Increase %	Forecast Population 000's
Hamilton-Wentworth	430.2	5.1	452.1
Halton	273.8	19.8	328.0
Waterloo	325.8	12.7	367.2
Peel	641.2	70.6	1,093.9
Metro Toronto	2,228.1	4.9	2,337.3
Niagara	<u>373.6</u>	2.2	<u>381.8</u>
	4,272.7		4,960.3

Source: The Financial Post information service

5.4.2 The Tourist Market

The tourist market in Hamilton-Wentworth in 1985 was made up of approximately 2,370,000 visitors, according to the regional tourism strategy. This group can be broken down as follows:

- o 1,480,000 day trips made to Hamilton-Wentworth by Ontario residents;
- o 180,000 overnight trips made to Hamilton-Wentworth by Ontario residents; and

- o 630,000 overnight trips made to Hamilton-Wentworth by non-Ontarian visitors.

Attractions and special events are the main reasons why visitors come to Hamilton-Wentworth. Most are same-day visitors, travelling from within an 80 km distance. The most popular attractions are noted in Table 12.

Table 12: Visitor Attendance at Attractions*

<u>Attraction</u>	<u># of Non-Residents</u>
Royal Botanical Gardens	600,000
African Lion Safari	400,000
Copps Coliseum	280,000
Hamilton Place	105,000
Confederation Park	37,500
Hamilton Convention Centre	<u>11,950</u>
	1,434,450

* Visitor attendance for Flamborough Downs was not available.

There is a marked similarity between the preferences of non-resident visitors and those of residents. This similarity suggests further opportunities for joint promotions of the Conservation Area and other attractions.

The description of a typical visitor to Hamilton-Wentworth matches that for a Valens visitor. In general characteristics, the tourist is:

- o male;
- o married;
- o between 25 and 44;

- o annual income between \$25,000 and \$34,999; and
- o a white collar worker.

According to the regional tourism strategy, growth in the tourist market may increase by 29% in the next few years. Assuming that 44%¹ of tourists will be first time visitors and that 85%¹ of tourists will be repeat visitors, the Hamilton-Wentworth region might welcome over three million visitors over the next few years.

5.4.3 Market Penetration

Penetration of the market in the entire service area by Valens Conservation Area is shown on Table 13.

Table 13: Origin of Visitors and Market Penetration

<u>Resident Market</u>	<u>Population (1986) 000's</u>	<u>Attendance 000's</u>	<u>Penetration %</u>
Hamilton-Wentworth	430.2	51.8	11.1
Halton	273.8	7.9	2.2
Waterloo	325.8	19.3	5.5
Peel	641.2	2.2	0.3
Metro Toronto	2,228.1	1.8	0.1
Other Ontario	5,304.6	15.4	0.3
Other	--	1.8	--

¹ Hamilton-Wentworth Visitor and Convention Services

In summary, the highest market share is made up of Hamilton-Wentworth residents. The Waterloo region is the second most important area. These figures suggest the Conservation Area serves both primary and secondary geographic segments at present.

5.5 Conclusions

Further development of the Valens Conservation Area is necessary to reduce the operating deficit. Increased demand will provide an opportunity for greater revenues.

New development must correspond to market demand. Visitors are travelling shorter distances and staying for relatively short periods. Day-use facilities and increased recreational and educational programming should prove to be most popular.

Most visitors come for family outings or picnics (42%). However, the addition of attractions and facilities was cited in comments made about changes required to the Area. This suggests that users demand diversity in their recreational activities.

Many people (12.8%) come to enjoy "scenery and nature". Programs for nature interpretation and education would provide additional opportunities for these visitors.

People also come for water sports (13.4%). Improvements to swimming were most frequently cited by visitors when asked about changes required to the Area.

The development concept must be supported by appropriate marketing strategies. First, marketing should be concentrated in the primary service area. Second, pricing must reflect the ability to pay increased fees while remaining within competitive limits.

Essentially, users should pay for the service - the more intensive the use, the higher the price. Third, advertising methods should be diverse and shared. In order to reach the largest possible market, many media and information sources should be applied. Costs may be somewhat prohibitive; therefore, it is important that joint promotions be pursued.

This approach emphasizes revenue generating opportunities. Consequently, Valens might be perceived differently by some members of the public - perhaps more as a recreation site than as a passive park or education area. Moreover, the development of popular recreational facilities at Valens may draw attention away from the more environmentally sensitive areas.

The Conservation Area is included in the Official Plan rural policy area designation. This designation and corresponding policies are not a constraint to additional recreation or cultural uses for Valens provided that, in general, natural resources are protected and the rural character of the area is preserved.

The regional policies encourage Conservation Authorities to pass regulations governing the use of Environmentally Sensitive Areas they own to protect them from loss and damage. The Conservation Authority is not bound by this provision, but has a sense of responsibility to its intent and purpose. The Town of Plashborough draft policies for Sensitive Areas provide more direction regarding the Sensitive Areas for Valens.

6. PLANNING POLICIES

The purpose of this section is to assess the implications of planning policies for the Valens Conservation Area.

6.1 Description of Planning Policies

Valens Conservation Area is within two planning jurisdictions - the Region of Hamilton-Wentworth and the Town of Flamborough.

The planning policies of these jurisdictions which are relevant to Conservation Area planning are included in Appendix 4.

Region of Hamilton-Wentworth Official Plan

The policy area designations in the Official Plan are general in nature. The expectation of the Regional Municipality is that the policies will be reflected more specifically and rigorously in the Area Municipality planning documents.

The Conservation Area is included in the Official Plan rural policy area designation. This designation and corresponding policies are not a constraint to additional recreation or cultural uses for Valens provided that, in general, natural resources are protected and the rural character of the area is preserved.

The Regional policies encourage Conservation Authorities to pass regulations governing the use of Environmentally Sensitive Areas they own to protect them from loss and damage. The Conservation Authority is not bound by this provision, but has a sense of responsibility to its intent and purpose. The Town of Flamborough draft policies for Sensitive Areas provide more direction regarding the Sensitive Areas for Valens.

Town of Flamborough Official Plan

Figure 4 depicts the Official Plan designations at Valens. The Town of Flamborough Official Plan designates the site as "Conservation" which means the predominant use of land shall be for conservation, open space or recreational purposes. This designation is not likely to be a constraint to expansion of development in the Area. Accessory buildings and structures are also permitted.

The "Agriculture" designation for the surrounding areas is also not a constraint to development.

Town of Flamborough Draft Official Plan (1986)

The draft policies relating to Sensitive Areas are not currently in effect, however, it is considered prudent to ensure that proposals reflect a responsible approach to development and use of these areas. The permitted uses in the Sensitive Areas include compatible public or private recreational uses which should not conflict with most proposed activities.

An Environmental Impact Statement is required where development or redevelopment is proposed on lands in an Environmentally Sensitive Area. The Statement shall evaluate the potential effects and the advantages and disadvantages of the undertaking (the proposed development). The planning process undertaken for the Master Plan incorporates some of the requirements of the Impact Statement. It includes an analysis of biophysical constraints to development for each alternative and a discussion of the advantages and disadvantages of the alternatives.

The sensitive features identified are unusual plant and animal communities and habitat for rare and endangered species (see Section 4.2).

6.2 Environmental Assessment Act

The Environmental Assessment Act was reviewed with respect to the Valens Master Plan. The key section of the EA Act for the Valens Conservation Area is Ontario Regulation 205 which addresses all activities of conservation authorities vis-a-vis the Environmental Assessment Act.

In particular, Section 8(2) of Regulation 205 states that "an undertaking by an authority is exempt from the provisions of subsection 5(1) of the Act¹ if the undertaking is solely for the purpose of,

- (i) development of conservation areas and campgrounds having a cost of not over \$1,000,000."

Based upon negotiations between the Association of Conservation Authorities of Ontario (ACAO) and the Ministry of the Environment (MOE), Section 8(2)(i) should be interpreted as 'new' conservation area and campground development. The ACAO has an understanding with the Ministry that replacement or upgrading of existing development is not 'new' development. However, 'significant' expansion of existing facilities do come under the EA Act and subsection 5(1). Unfortunately,

¹ Subsection 5(1) of the Environmental Assessment Act requires the submission of an EA document.

a clear interpretation of the word 'significant' does not exist.¹

As an established public recreation area, any development proposed for Valens in the Master Plan update can be considered as an expansion of existing facilities. However, each optional design concept and the preferred plan must be evaluated for significance to determine whether the EA Act applies.

6.3 Conclusions

There are two major aspects to the planning policies as they relate to Conservation Area planning. First, the land use designations affecting Valens and the surrounding area may be interpreted as compatible with recreation or cultural development.

Second, expansion of existing development within a conservation area does not constitute 'new' development and is not subject to Section 5(1) of the Environmental Assessment Act unless deemed "significant".

¹ Based on discussions with Russ Powell, Executive Director, the Association of Conservation Authorities of Ontario.

7. CONSTRAINTS ANALYSIS

An analysis of constraints posed by the natural environment, land uses, policies and heritage resources was undertaken.

Slope, vegetation, wildlife and aquatic habitat were evaluated to determine the sensitivity of habitat types to disturbance.

Slope was considered important because of the potential costs and impacts associated with grading to attain a developable site. Therefore, slopes greater than 25% were evaluated as posing a significant constraint. Slopes of 0-5% posed no constraint.

Vegetation communities are a dominant landscape feature governing wildlife habitat, microclimate and soil development. The sensitivity to disturbance was evaluated based on the rarity of species, maturity, condition, longevity and viability.

The significance of wildlife habitat was based on interpretation of the characteristics of the habitat including food value and availability, cover/shelter, size of the habitat and linkages to other habitats.

The sensitivity of aquatic habitat to development was evaluated based on an interpretation of bank stability and shade cover.

Figure 5 indicates habitat types and levels of sensitivity.

High sensitivity areas would include any combination of:

- o slopes greater than 25%;
- o high significance vegetation;

- o core wildlife habitat; and
- o high quality aquatic habitat.

Moderate sensitivity areas would include any combination of:

- o slopes 11-24%;
- o medium significance vegetation;
- o buffer wildlife habitat; and
- o medium quality aquatic habitat.

Low sensitivity areas would include any combination of:

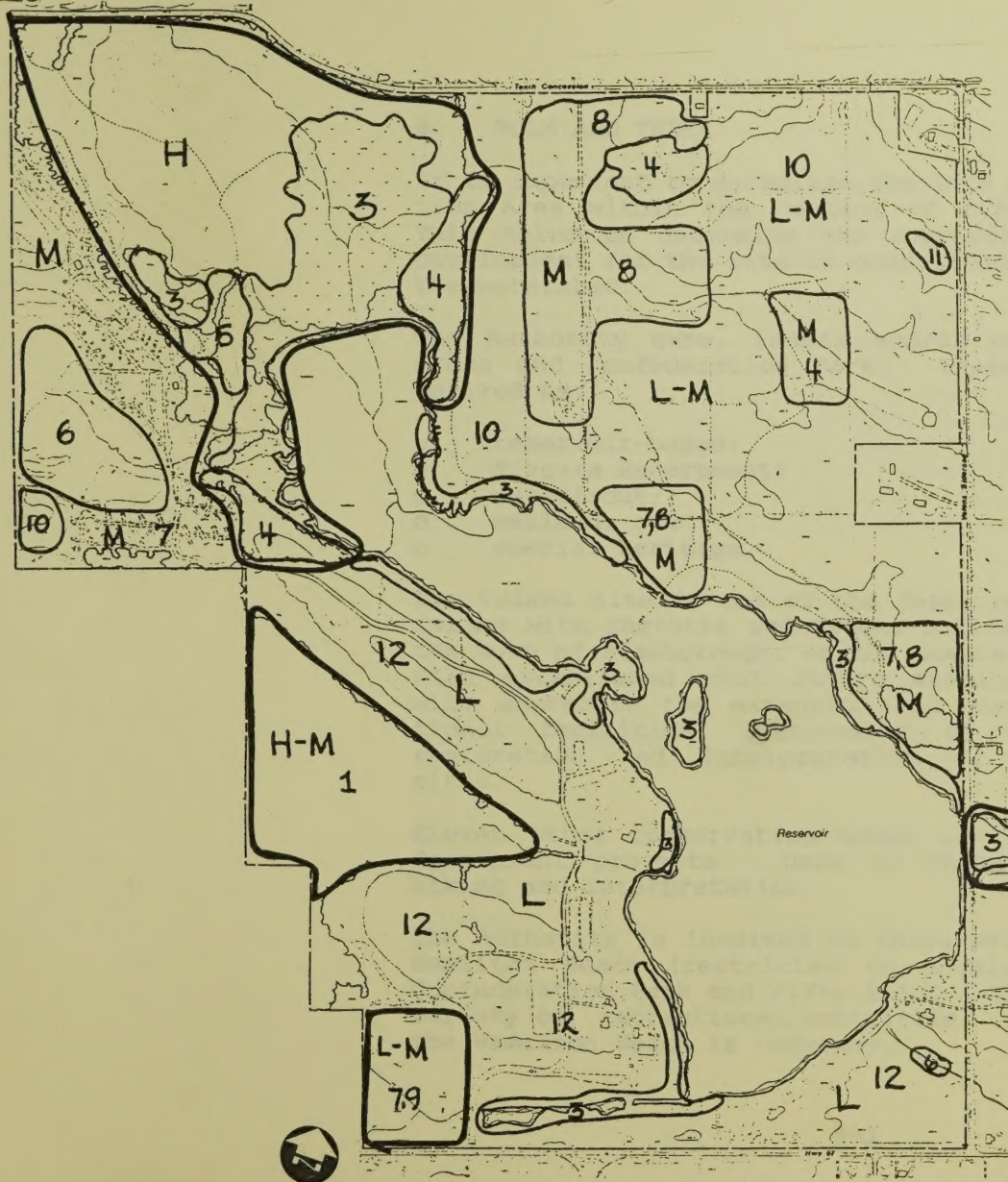
- o slopes 0-10%;
- o low significance vegetation;
- o low quality wildlife habitat; and
- o low quality aquatic habitat.

Existing and planned land use adjacent to the site was also reviewed to determine constraints to development.

Policies of the conservation authority were also considered in determining site constraints. Policies regarding flood plains, environmentally sensitive areas and fish and wildlife management plans were reviewed.

The original turn-of-the-century farm buildings exist on the property. The last surviving log cabin in Wentworth County was relocated to the site and reconstructed. New development should preserve and protect these resources.

There are two areas on-site with a high level of sensitivity to development: the wooded and marsh area in the northwest corner of site and the lowland deciduous forest south of the drumlin. If development is planned for these areas, environmental protection measures will be required to mitigate impact. Other areas on-site have a low to medium level of sensitivity to development.



legend

— Property Boundary

- 1. Deciduous Lowland
- 2. Mixed Lowland
- 3. Marsh
- 4. Upland Deciduous
- 5. Mixed Woods / Plantation
- 6. Lowland Scrub
- 7. Scotch Pine White Spruce
- 8. Red Pine Plantation
- 9. Sedge Meadow Plantation
- 10. Old / Abandoned Field
- 11. Sedge Meadow
- 12. Maintained Grassland

H - HIGH
M - MEDIUM
L - LOW } Level of Sensitivity

Habitat Types — Sensitivity

Figure 5

VALENS CONSERVATION AREA

HAMILTON REGION CONSERVATION AUTHORITY

8. ROLE AND THEME

It is important to establish the role of the Valens Conservation Area within the context of other authority holdings. This helps to determine the appropriate type and level of development for the site in comparison to other properties in the watershed.

The Authority owns, leases and/or manages 19 conservation areas and Confederation Park. These properties are categorized as:

- o reservoir-based;
- o Niagara Escarpment;
- o waterfront;
- o wetland; and
- o special heritage.

The Valens site is one of the three reservoir-based projects (along with Christie and Crooks Hollow). All are located in the Town of Flamborough, on the Spencer Creek. The Watershed Plan established that future development for these sites will emphasize the expansion and diversification of recreational facilities, improvement of wildlife habitats and restoration and interpretation of heritage conservation sites.

Eleven other conservation areas are categorized as Niagara Escarpment projects. Uses of these areas are focused on hiking and interpretation.

The Authority is involved in three waterfront projects: the Hamilton Beach (restricted to acquisition of properties); Confederation Park and Fifty Point. The latter two provide a variety of recreational activities. A Master Plan study for the Hamilton Beach is underway.

The Authority has two wetland reserves acquired for water management on Spencer Creek. These sites are used for hiking, interpretation and fishing.

The Authority is also involved with the development and maintenance of the Fieldcote Memorial Park.

The Valens site is one of the three conservation areas that are planned and developed for high levels of recreational use. Because of the investment in existing facilities, two possible roles for the Valens site were examined: recreation and cultural. Possible recreation development opportunities are listed and grouped into three levels: passive, active or intense. Possible cultural development opportunities are grouped in local, community or regional scale facilities. Appendix 5 includes the list of development opportunities considered for the site.

Also examined were optional themes for the embellishment of the roles and specific development opportunities.

The following themes for development were reviewed:

<u>Historic/Heritage</u>	History of agriculture and rural Ontario lifestyle.
<u>Conservation</u>	
<u>Education</u>	Interpretation of the natural and heritage environment.
<u>Aquatic</u>	Focus on water/water-based activities and facilities.
<u>Local Environment</u>	Site specific environmental qualities and features.

Future

Develop a futuristic theme, e.g. environment in the year 2025.

8.1 Evaluation of Development Components

The development components contained in Appendix 5 were evaluated to determine the most appropriate uses for the site.

First the components were assessed for their compatibility with planning policies, Authority goals and for their ability to generate revenue. The components were also evaluated for their compatibility with one another. The results of these assessments were used to select preferred roles, themes and possible development components. Appendix 5 includes the evaluation matrices.

The results of the evaluation indicate that both passive recreation and local scale community cultural components are compatible with planning policies, promote Authority goals, but they have limited revenue potential. The intense recreation components and regional scale cultural activities are constrained by the Environmentally Sensitive Area policies and do not consistently promote the Authority goal and recreation philosophy. These components, however, generally have revenue potential. Some of the active level of recreation and community scale cultural activities have the same constraints as above. Most of these activities also have revenue generation potential. Thus, generally greater levels of intensity of development have greater constraints but also a greater capability to generate revenue.

The development components were also evaluated for their compatibility with one another. The purpose of the evaluation was to develop groups of compatible components.

The evaluation matrix included in Appendix 5 serves as a tool to select groups of components which work well together and provide complementary functions.

8.2 Preferred Level of Development

The evaluation of components relative to study goals indicates that intense levels of recreation activity and regional scale cultural activities have constraints. The cultural role is not recommended for Valens because the market and user preferences for this site are recreation oriented. An active recreation role within a theme of local environment and conservation education is preferred. The need to increase revenues will be a consideration in the selection of components.

9. CONCEPTS AND EVALUATION

9.1 Introduction

The purpose of this section is to present and evaluate the concept options. The section provides:

- o the basis used to develop concepts;
- o concept descriptions;
- o concept evaluation; and
- o description of the preferred concept.

9.2 Concept Development

A number of factors affected the organization of components into design concepts. The preceding section described the process used to identify development components, roles and themes. The preferred role for Valens Conservation Area was active recreation with an emphasis on resource management and conservation education. Increasing revenues is a key consideration.

Compatibility analysis was also undertaken to identify those components or groups of components which appear to be well-suited or complimentary to each other and to the goals, planning policies and the potential to generate revenue.

Design concepts were based on:

- o the roles and theme of the area;
- o the need for a key feature; and

- o preferred development components.

The concepts provide a broad range of activities and facilities within the role and theme developed for the site. It is recognized that the concepts may be modified in scale, scope and/or activities and facilities with the identification and development of a preferred concept.

9.3 Concept Descriptions

This section provides descriptions of each design concept and the relationship of each concept to the preferred role and theme. Appendix 6 includes a list of activities, facilities, performance standards, and capital costs for key features.

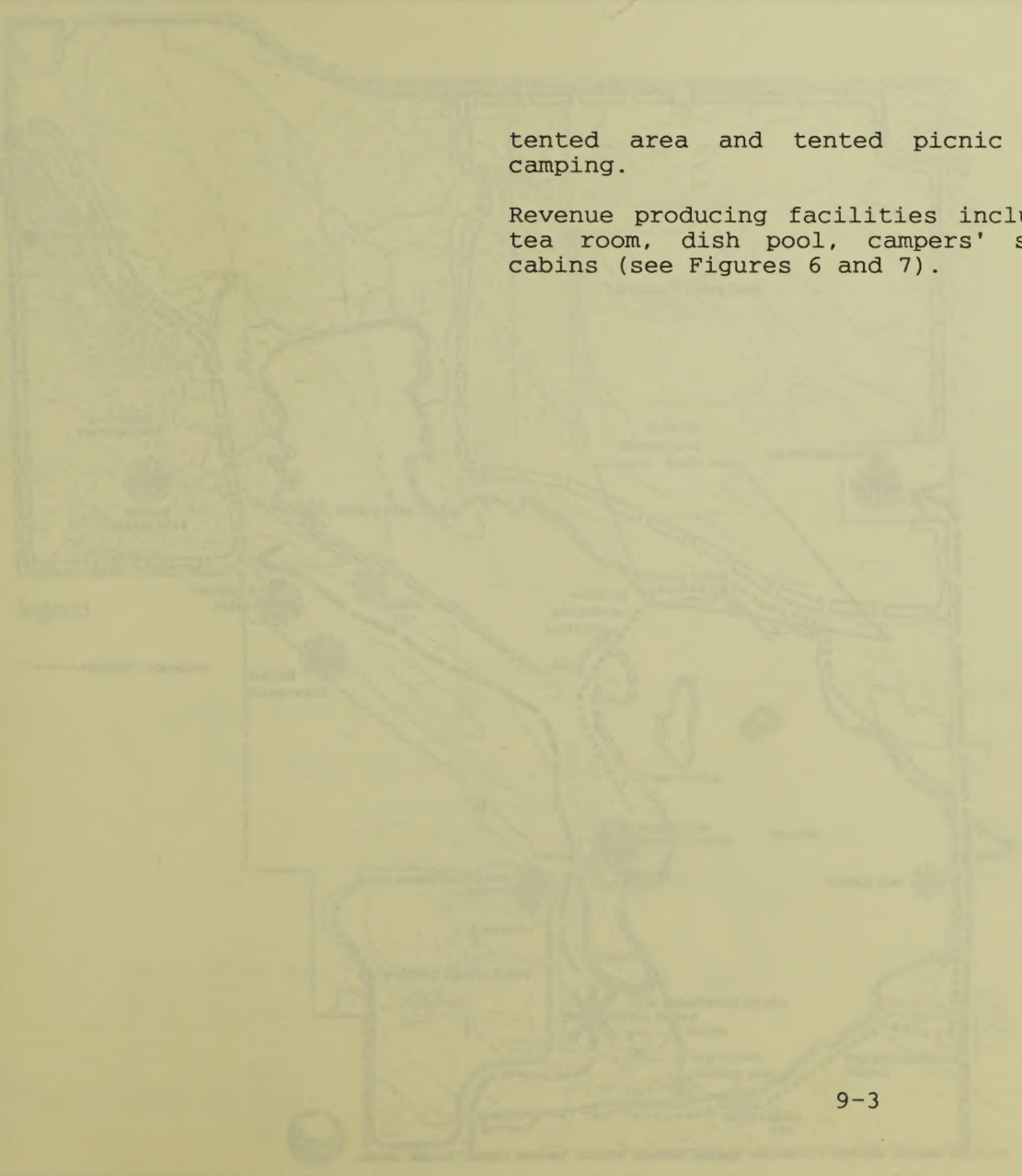
1. Concept A

A new park entry complex is a major component of Concept A. The existing superintendent's house, a turn of the century building, is used as the orientation centre. A tea house is incorporated into the centre. The log cabin and barns remain, creating a complex of heritage buildings and an opportunity to create an early 20th century farmstead.

New facilities are proposed in this concept to attract new day visitors, as well as to extend the stay of overnight visitors. Of particular concern, is the need for facilities to enhance camping during inclement weather. Facilities such as the tea room, equestrian centre, camping cabins and fishing piers would help to attract visitors in the shoulder seasons, as well as the summer. The dish pool, sauna/shower, fitness trail are incorporated to meet the needs of both day visitors and campers. The campers' store, serviced sites,

tented area and tented picnic area would also enhance camping.

Revenue producing facilities include the equestrian centre, tea room, dish pool, campers' store, serviced sites and cabins (see Figures 6 and 7).



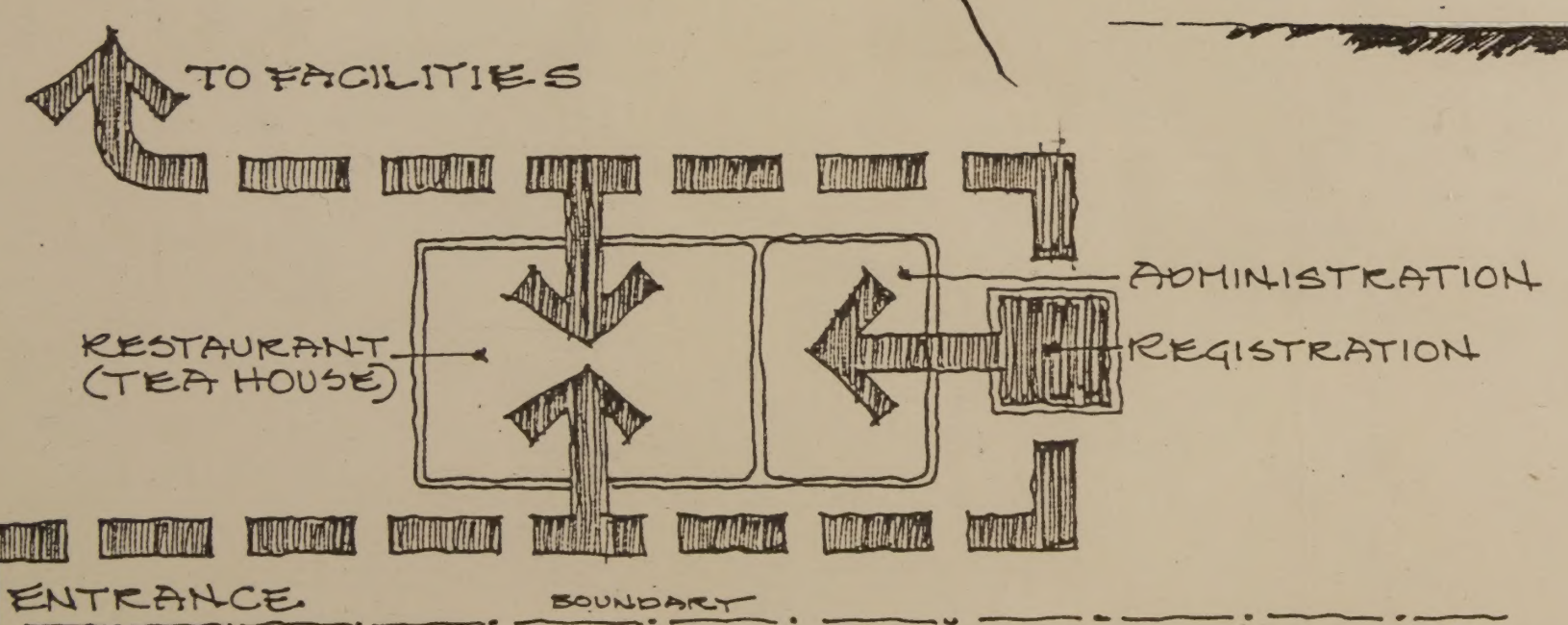
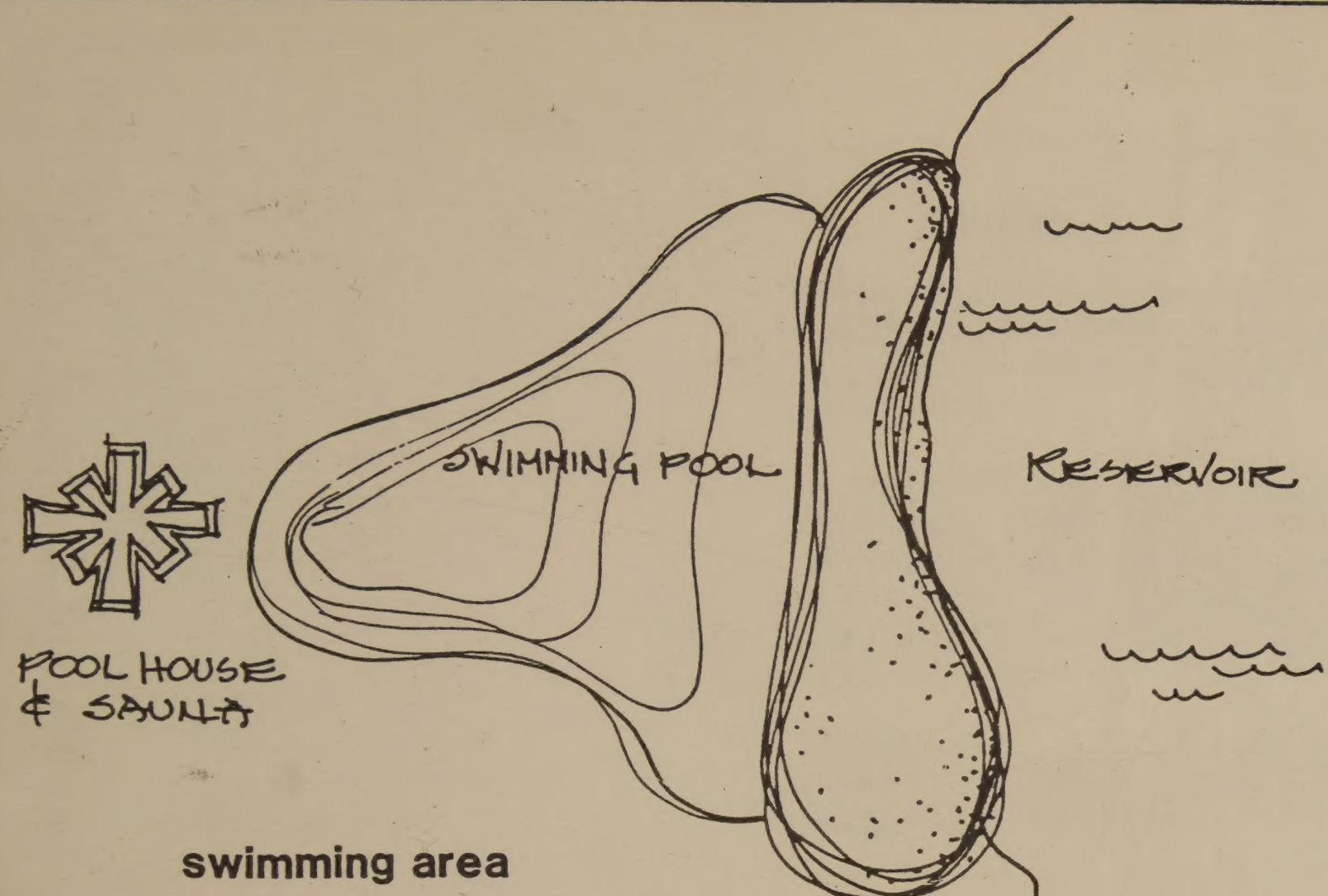
Concept Plan A

Figure 6



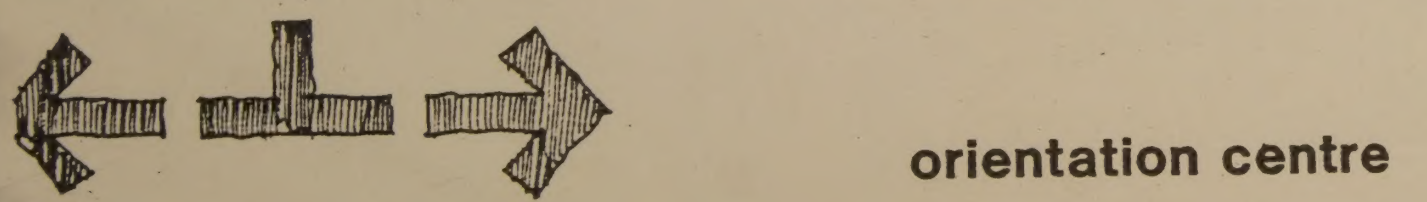
Concept Plan A

Figure 6



tented playground

Concept A
Figure 7

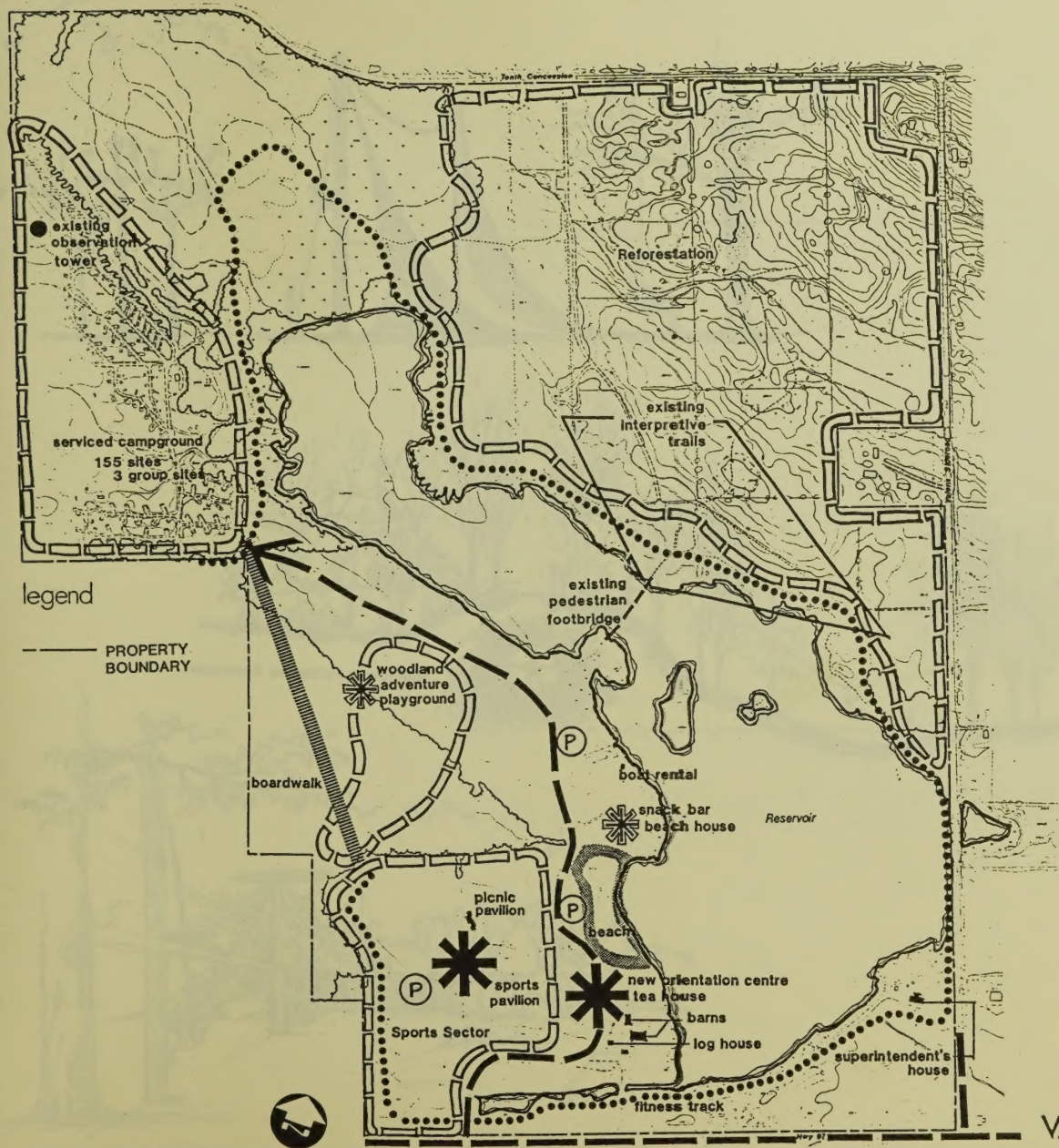


2. Concept B

This concept focusses on active recreational activities in an outdoor setting. Events and facilities are organized around a central sports pavilion located in the southwest portion of the site.

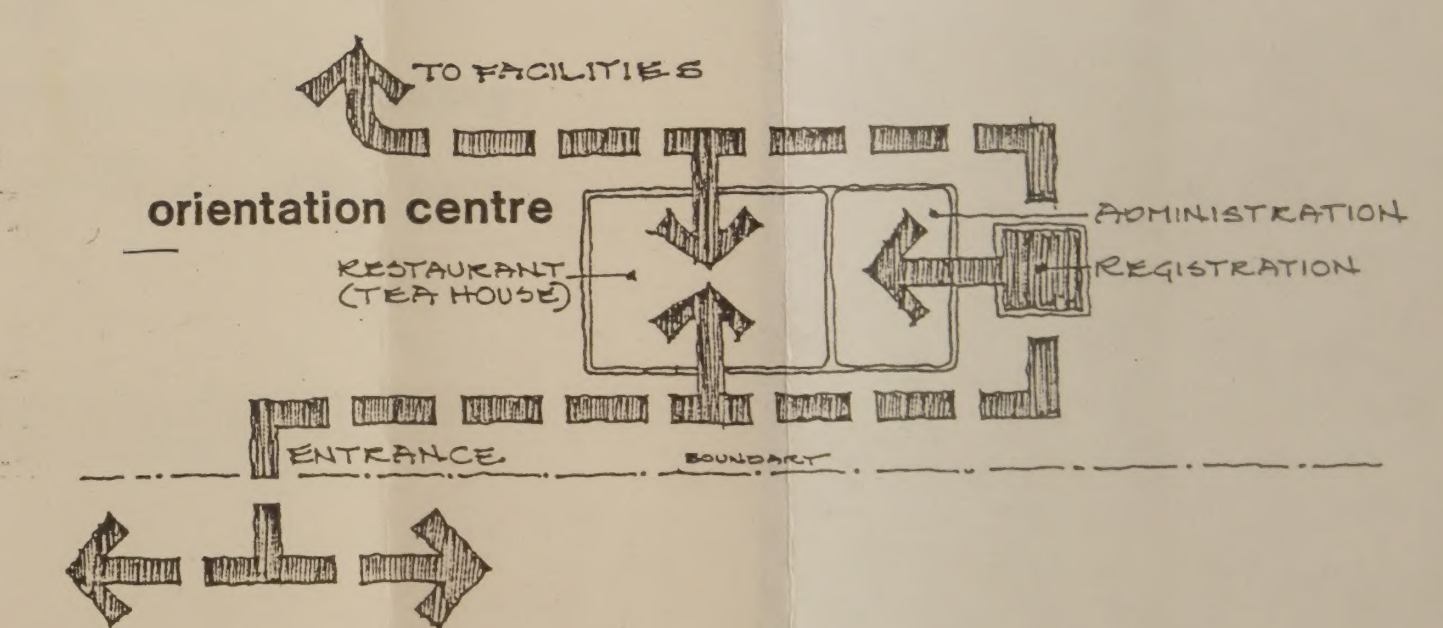
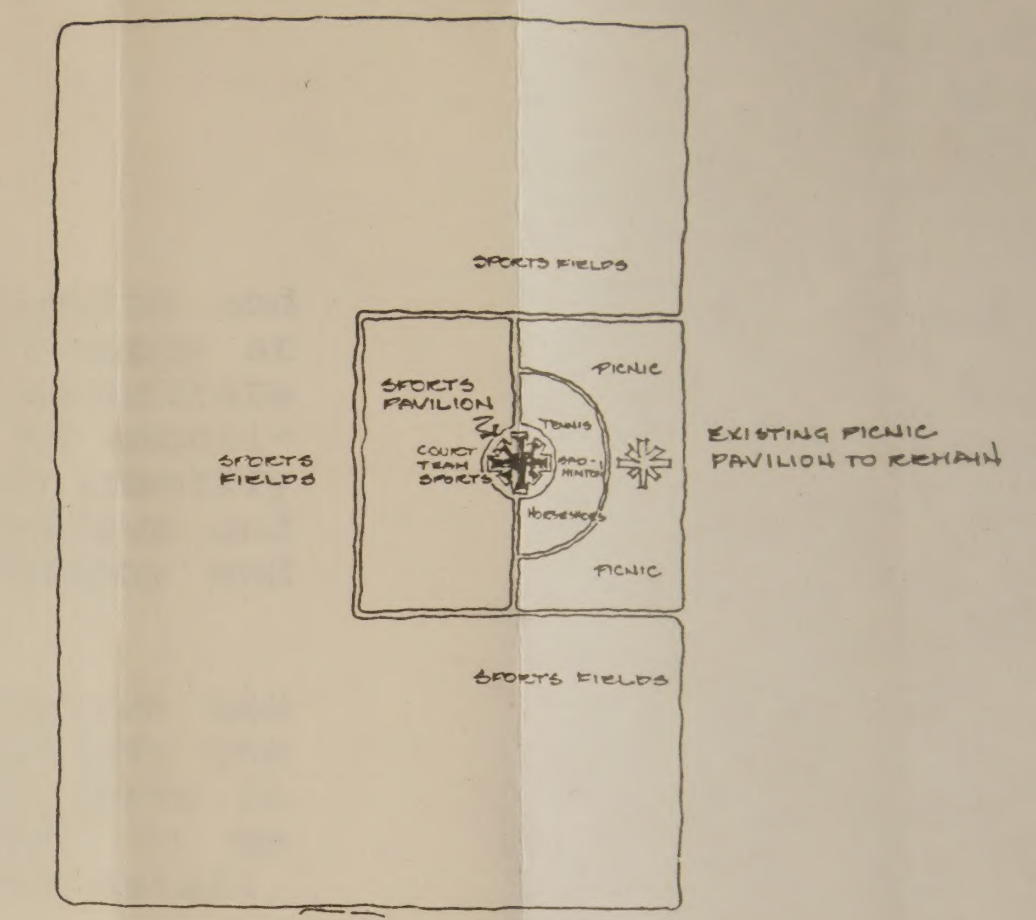
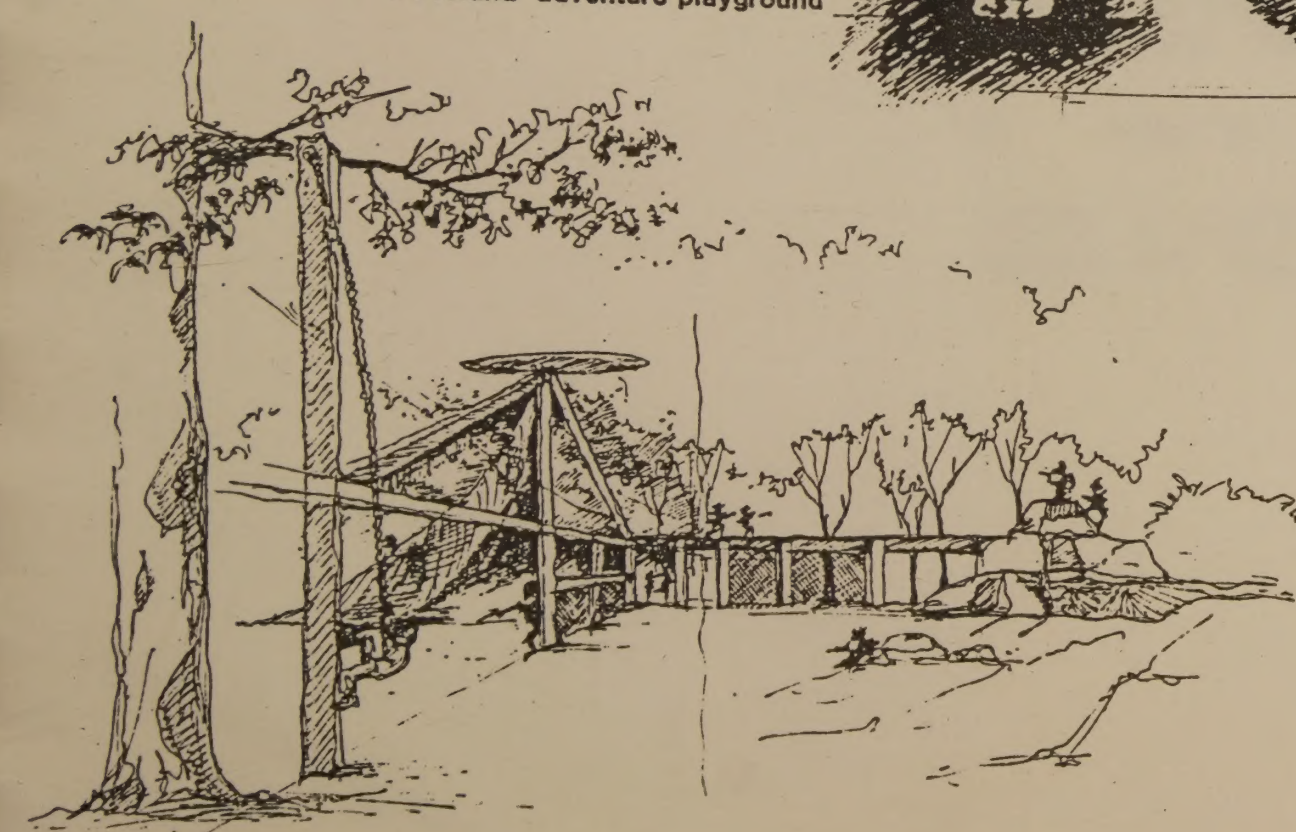
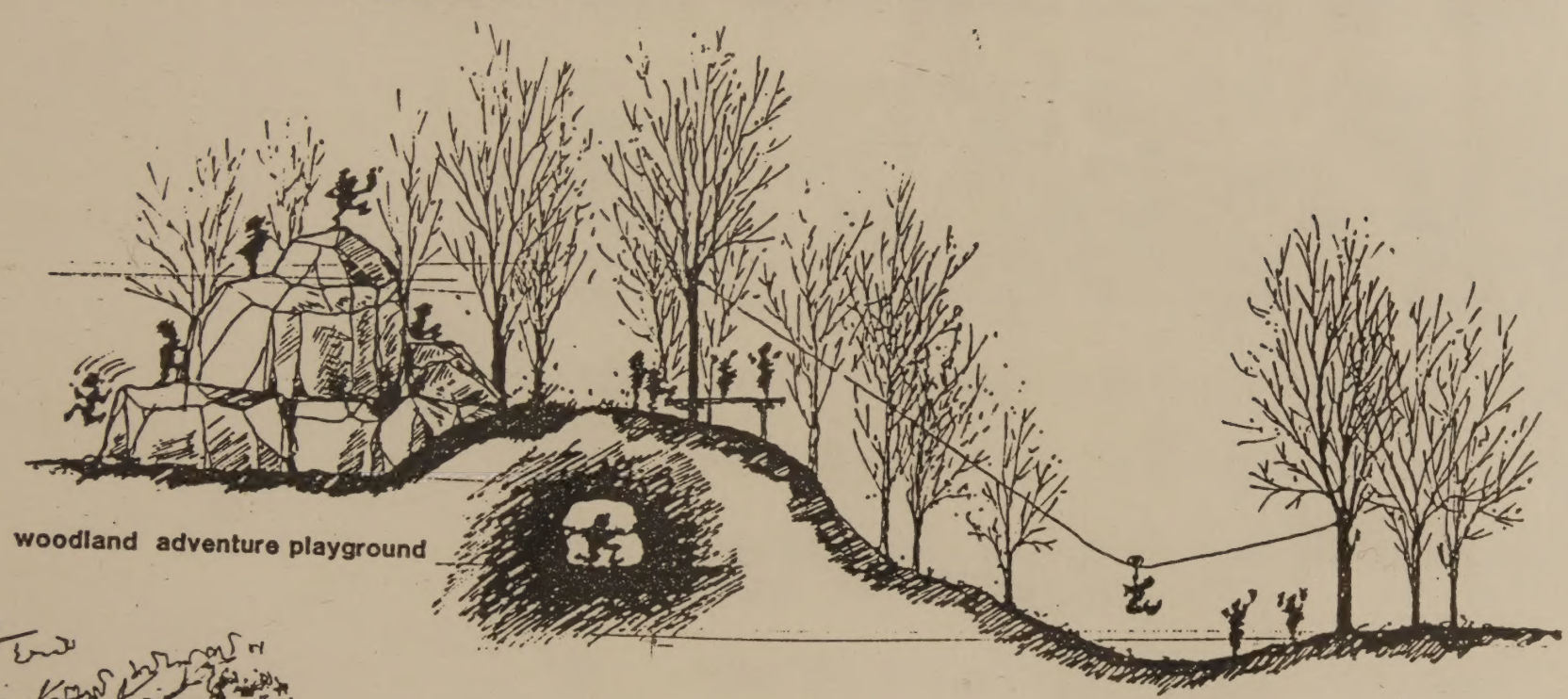
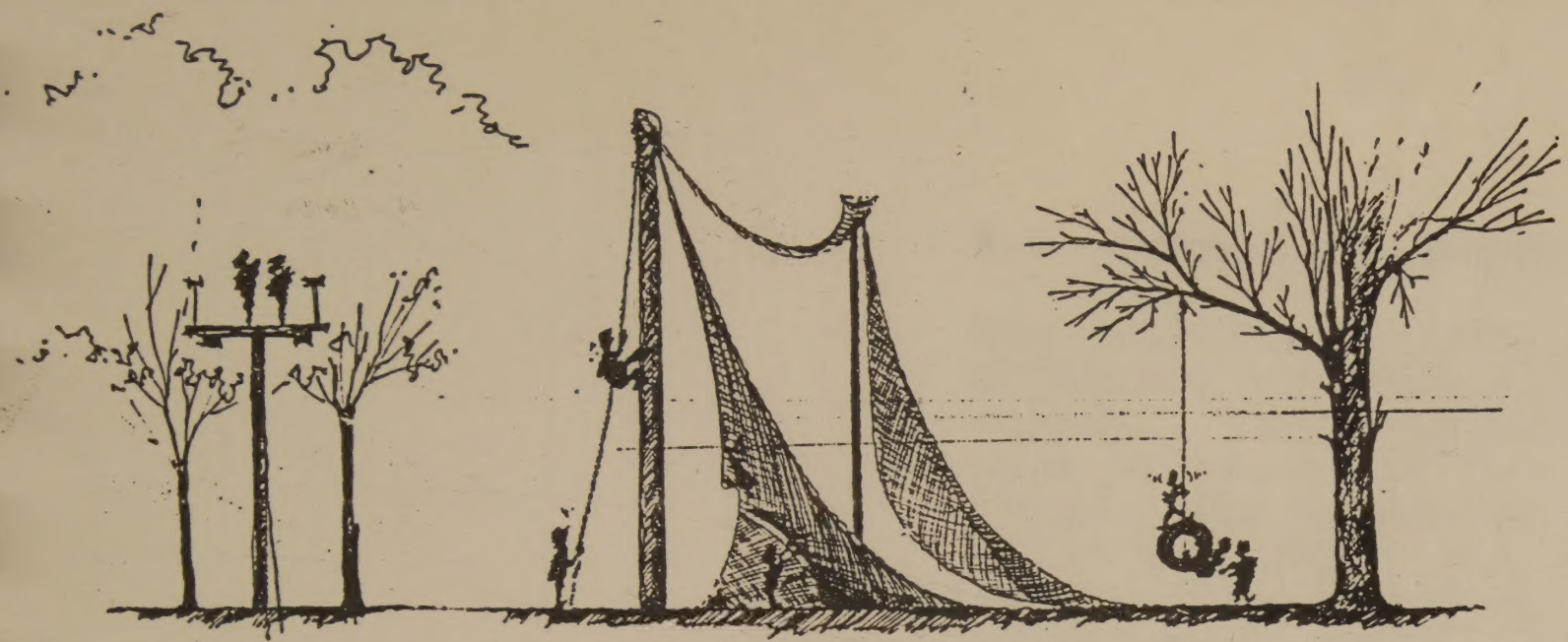
A variety of facilities are provided, many using the natural setting, such as fitness track and adventure playground. The existing uses remain largely unchanged. A large reforestation area is provided in the northeast quadrant providing opportunities for resource management/conservation education and to serve as a future development site.

Potential revenue generating facilities include booking of sports fields, organized adventure games and tea house (see Figures 8 and 9).



Concept Plan B

Figure 8



Concept B
Figure 9

9.4 Concept Evaluation

The concepts suggest different approaches to achieving and promoting the Authority's goal and recreation philosophy at Valens. These concepts have been developed to demonstrate ways in which the role and theme for the site can be embellished. The purpose of evaluating the concepts is to identify which concept(s) and associated components best achieve and promote the Authority's goal and recreation philosophy and which best fulfills the role and theme.

It is recognized that the design process is iterative and that it is unlikely that one design concept will satisfy the needs, goals, role and theme. The evaluation will serve to identify which components of the concepts appear to be reasonable and which should be examined in greater detail, with the purpose of developing a preferred concept.

The design concepts were evaluated based on:

- o achievement of Authority goal and recreation philosophy;
- o effect on the environment and compatibility with planning policies; and
- o the ability to generate revenue.

Table 9 lists the evaluation factors. The comparative evaluation of the design concepts is provided on Table 10.

TABLE 9
CONCEPT EVALUATION FACTORS

Factor	Definition/Rationale
a) <u>Recreation Activities</u>	
1. User Appeal	. assessment of the appeal of the recreation opportunities provided by the concept with regard to their availability elsewhere in the area
2. Spectator Appeal	. assessment of the appeal of the concept into providing opportunities to casually view activities
3. Integration Among Facilities	. assessment of the integration among facilities on-site; as measured by proximity to other site facilities and activities, linkage of proposed facilities to existing facilities and potential conflict between proposed and existing facilities
4. Year-round Use of Site	. assessment of the seasonal variety of activities
5. Integration of Activities and Site Character	. assessment of the integration of facilities and activities with the local setting and character of the site

TABLE 9
CONCEPT EVALUATION FACTORS
(continued)

Factor	Definition/Rationale
b) <u>Effects on Environment</u>	
6. Terrain	. assessment of the impacts due to changes in topography, soil, drainage pattern and erosion potential
7. Sensitive Features	. assessment of the impacts on sensitive features - environmentally sensitive areas
8. Vegetation Habitat	. assessment of the impacts on vegetation/habitat due to disturbance or removal
9. Wildlife	. assessment of impacts on wildlife populations due to disturbance or removal of habitat
10. Water Resources/ Aquatic Habitat	. assessment of impacts on water quality, quantity and aquatic habitat
11. Local Community	. assessment of impacts (noise, vehicular traffic, pedestrian traffic) on the local community
12. Planning Policies	. assessment of the compatibility with the relevant planning policies (Town of Flamborough, Region of Hamilton-Wentworth) and the requirement for an Environmental Assessment

TABLE 9
CONCEPT EVALUATION FACTORS
(continued)

Factor	Definition/Rationale
c) <u>Revenue Potential</u>	
13. Direct	. assessment of the potential to generate revenue directly (on a user fee basis)
14. Indirect	. assessment of the potential to generate revenues indirectly by increasing attendance

CONCEPT
EVALUATION: VALENS CONSERVATION AREA

A. Recreation Facilities & Activities	CONCEPT A			CONCEPT B		
1. User Appeal	High user appeal Exclusive facility, regionally unique			Moderate user appeal Facilities are available elsewhere in Hamilton area		
2. Spectator Appeal	Low			Medium		
3. Integration of Facilities	Activities concentrated around key facilities located throughout the site			Activities concentrated around key facilities located throughout the site		
4. Year-round Use of Site	Use concentrated in spring/summer/fall			Use concentrated in spring/summer/fall		
5. Integration of Activities & Site Character	Appeal of equestrian centre based on its location			Facilities could be built anywhere		
B. Environmental Effects						
6. Terrain	Generally minor			Generally minor Sports fields on drumlin will require modification of terrain to accommodate		
7. Sensitive Features	Generally minor			Generally minor		
8. Vegetation / Habitat	Some impacts due to equestrian centre will result, not expected to be significant			Some impacts due to adventure playground Positive impacts of reforestation area		
9. Wildlife	Some impacts due to equestrian centre will result, not expected to be significant			Some impacts due to adventure playground Positive impacts of reforestation area		
10. Water Resources / Aquatic Habitat	Generally minor			Generally minor		
11. Local Community	Generally minor			Generally minor		
12. Planning Policies	No conflict with Town and Region policies provided that sensitive natural features are protected An EA will likely be required			No conflict with Town and Regional policies provided that sensitive natural features are protected Will not likely require an EA		
C. Revenue Potential						
Direct (D) Indirect (I)		D	I		D	I

9. Wildlife

Some impact
significant

10. Water Resources / Aquatic Habitat

Generally

11. Local Community

Generally

12. Planning Policies

No conflict
features a
EA will

C. Revenue Potential

Direct (D)

Indirect (I)

Oriental
Tea house
Equestrian
Cabins
Servicing
Beach sau
Dish pool
Fitness t
Fishing p
Camper's
Tented pi

Evaluation Summary

Table 10

Provides a
Maintains
Provides t
Increases

DILLON

9.5 Preferred Concept

Concept A was selected as the preferred concept by the Technical Committee and the Conservation Areas Advisory Board.

Several elements were modified or eliminated during design development based on;

- o public input;
- o comments received from the Technical Advisory Committee; and
- o direction given by the Conservation Areas Advisory Board or Full Authority.

The major changes were:

<u>Item</u>	<u>Rationale</u>
- Eliminate equestrian centre	- high capital and operating cost - direction received from the Conservation Areas Advisory Board, November 25, 1986, February 19, 1987;
- Eliminate sauna	- direction received from the Technical Advisory Committee
- Add adventure playground	- to expand facilities for children
- Eliminate camping cabins	- incompatible with other uses on site and in area (Conservation Areas Advisory Board, February 19, 1987.)

Item	Rationale
- Add special group/event area	- To meet the needs of special groups
- Change dish pool to children's splash pool	- high capital cost

The modified concept 'A' provides a diversity of recreation activities while protecting the natural resources and the qualities that attract visitors to the site for nature interpretation. A children's splash pool, adventure playground, children's farmyard play area, volleyball, tennis and a baseball diamond are located on the south side of the reservoir in areas already used by campers or visitors picnicking. The north side of the reservoir and wooded areas on the south side remain unchanged except for the addition of hiking trails. If demand warrants in the future, special groups could use an area on the north side of the reservoir for organized activities and events.

By increasing the variety of recreation/educational activities and offering sheltered facilities, e.g. tea room, children's farmyard play area and the tented recreation pavilion, more day users will be attracted to the area and campers will be encouraged to stay longer, even in inclement weather.

In view of the extent of existing development and public use of the Conservation Area, it is suggested that the Master Plan update based on modified Concept 'A' is not a significant expansion to existing development and therefore, is not subject to the requirements of the EA Act.

10. MASTER PLAN

The Master Plan features re-organization of the entrance and emphasizes year-round recreation and conservation education.

Entrance and orientation to the area is centered on the site's original stone house and farm buildings. The stone house will be used for administration, orientation and a small tea room. The existing small stone building north of the house would be renovated for a camper's supply centre/store. A children's play barn is proposed for the existing barn with a new silo slide. A petting farm is located adjacent to the barn. The log cabin remains unchanged. All buildings are integrated within a typical rural Ontario farmstead landscape incorporating an apple orchard, herb garden and perennial garden.

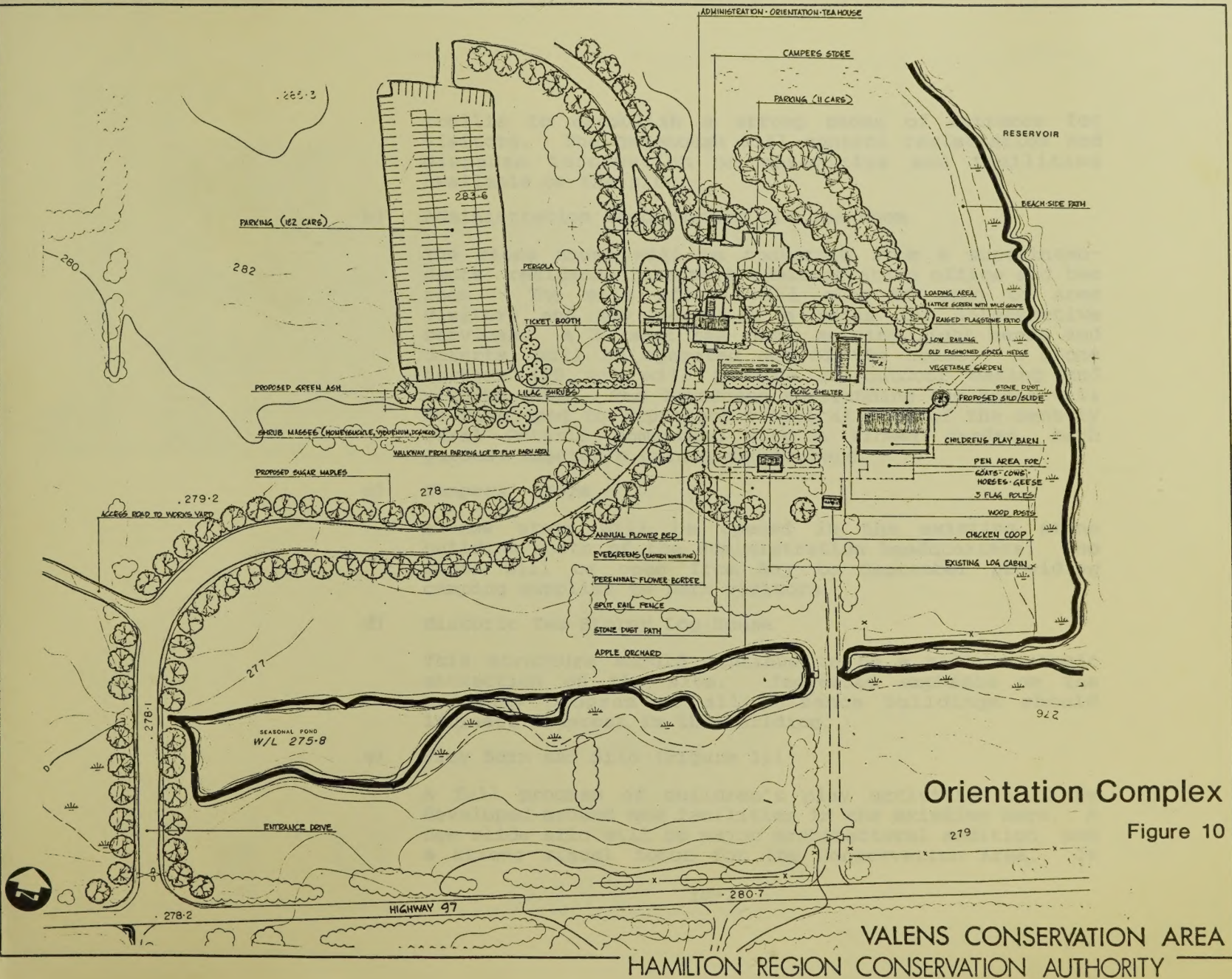
The beach area will continue to be used as a focus for summer recreation. The existing beach concession will be augmented with a children's splash pool, boardwalk, gazebos, and volleyball courts. A new adventure playground would be constructed on the drumlin northwest of the beach. Group camping and facilities for use by special groups is proposed north of the reservoir.

This section summarizes proposed facilities, circulation and programs. The reader is directed to study the associated plans, sections and elevations for more detail. The Master Plan (Figure 15) is included in a pocket at the end of the report.

1. Entrance/Orientation Complex (Figure 10)

a) Gatehouse

A new gatehouse will be located on a boulevard west of the existing stone house connected by an overhead



trellis to establish a strong sense of entrance for visitors. The gatehouse will control registration and dispense information on activities and facilities available on the site.

b) Administration Headquarters and Tea Room

The stone house will be converted from a superintendents' residence to a park administration office and tea room. The main office will also be open to area visitors and may serve as a focus for interpretive services. A 20 seat tea room, serving light meals and deserts, will be operated out of the house. A stone terrace (60 m²) will provide an outdoor eating and viewing area. The landscape surrounding the house will be developed to represent a typical turn of the century rural Ontario homestead with a flower garden, herb garden, vegetable garden and orchard.

c) Campers' Store

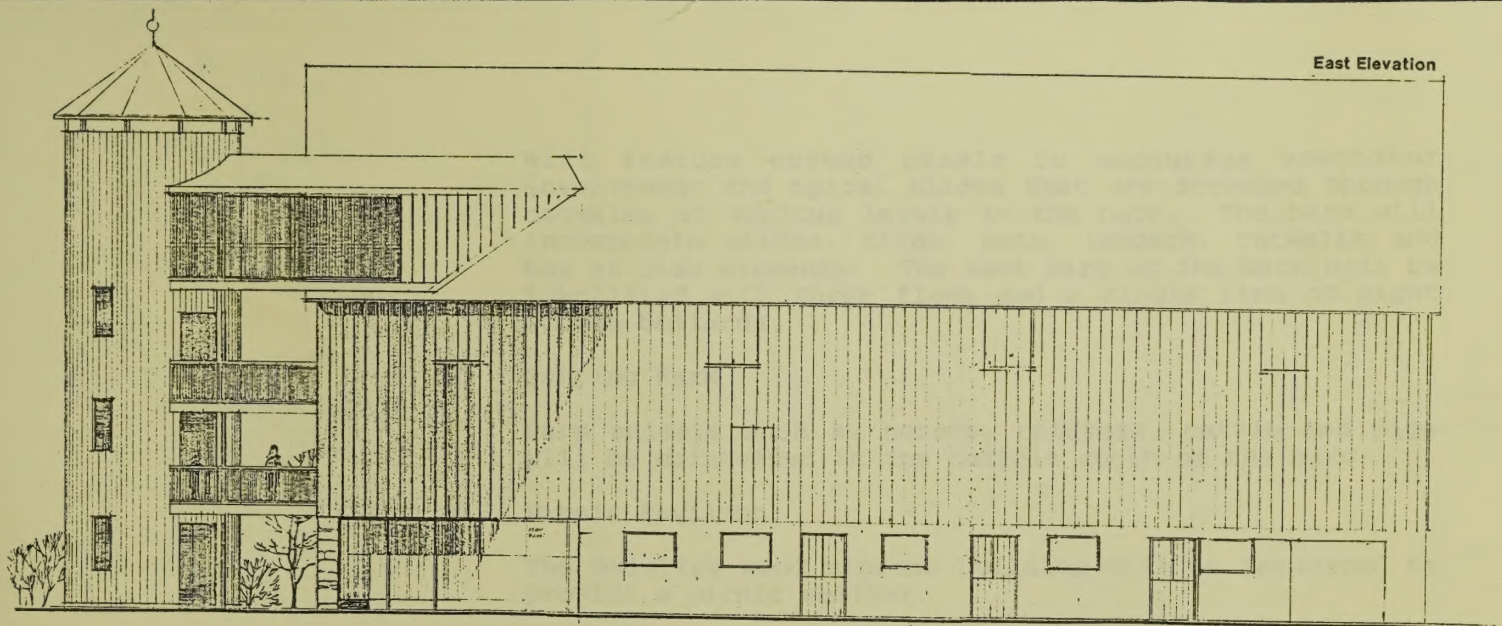
A new store will be opened in the existing stone building north of the administration headquarters. The store will be open from May to September providing camping supplies to park visitors.

d) Historic Two-Storey Log House

This structure should continue to be a major historic attraction on the site. Increased emphasis on the activity program of all entrance buildings should increase interest in the building.

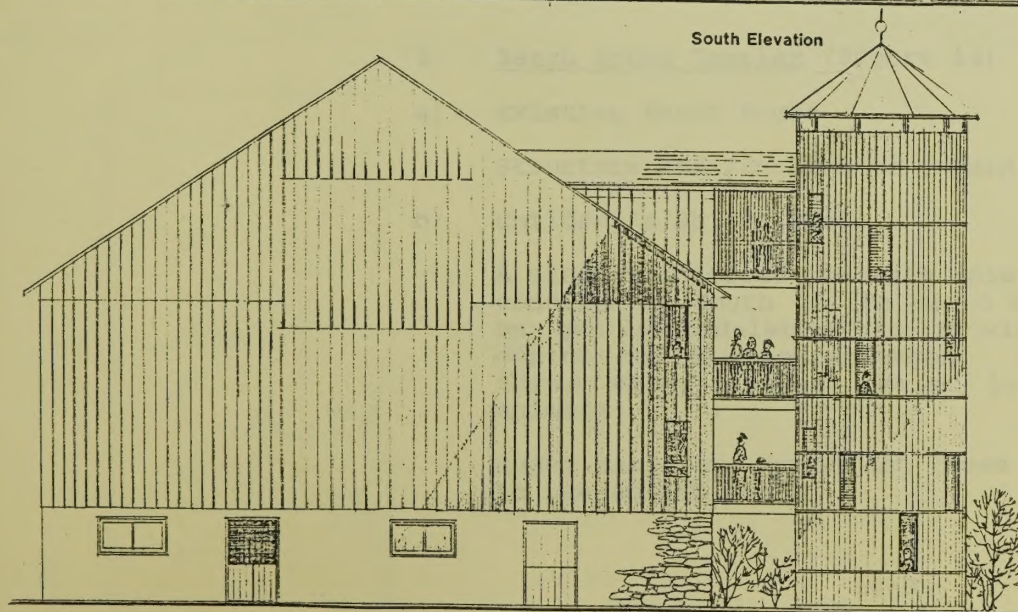
e) Play Barn and Silo (Figure 11)

A full program of children's play activities will be developed around new facilities in the existing barn. A new slide silo will be major architectural addition, and a strong visual focus for the Conservation Area. It



East Elevation

South Elevation



Childrens Play Barn

Figure 11



will feature screen panels to encourage spectator involvement and spiral slides that are accessed through catwalks at various levels in the barn. The barn will incorporate slides, tires, nets, ladders, catwalks and hay as play elements. The west yard of the barn will be identified with three flags and a single line of eight wooden bollards.

f) Petting Farm

Farm animals such as horses, chickens, cattle and pigs will be maintained in the corrals south of the barn.

g) Picnic Pavilion

The existing wood storage building will be renovated to provide a picnic shelter.

2. Beach House Complex (Figure 12)

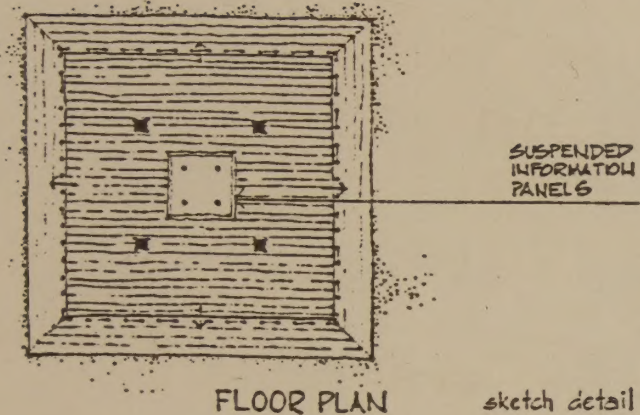
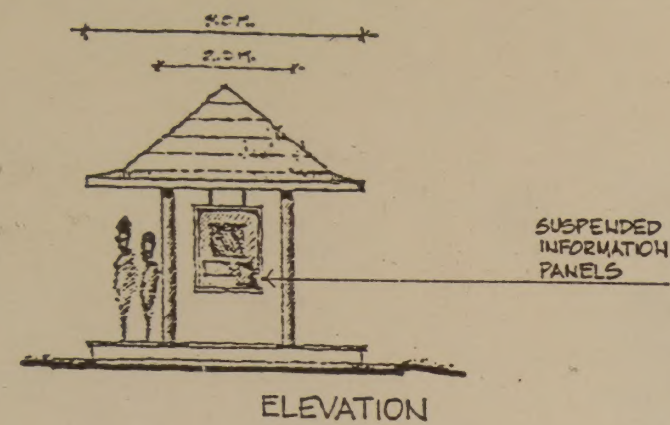
a) Existing Beach House

Structure and function to remain unchanged.

b) Children's Splash Pool

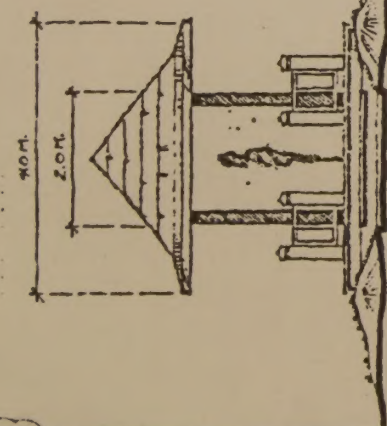
A steel-reinforced concrete splash pool (750 m²) will be constructed south of the beach house. The surface will be gently undulating to provide a variety of water depths and play experiences. Play equipment includes three water slides, water jets and spring-mounted animals.

Sugar maple and green ash trees form a planted backdrop to the splash pool.

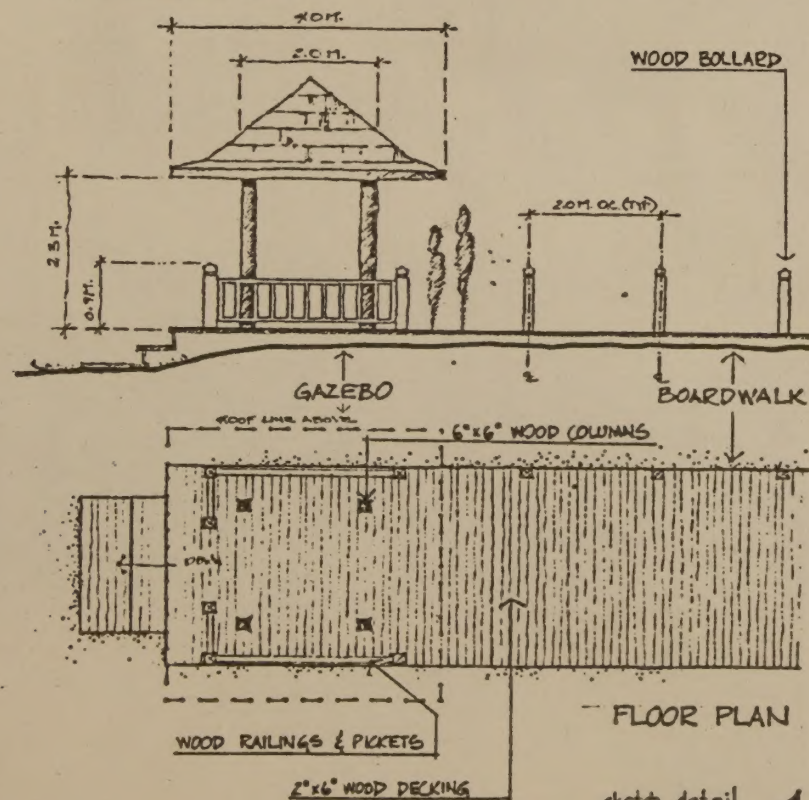


sketch detail 2
KIOSK NTS

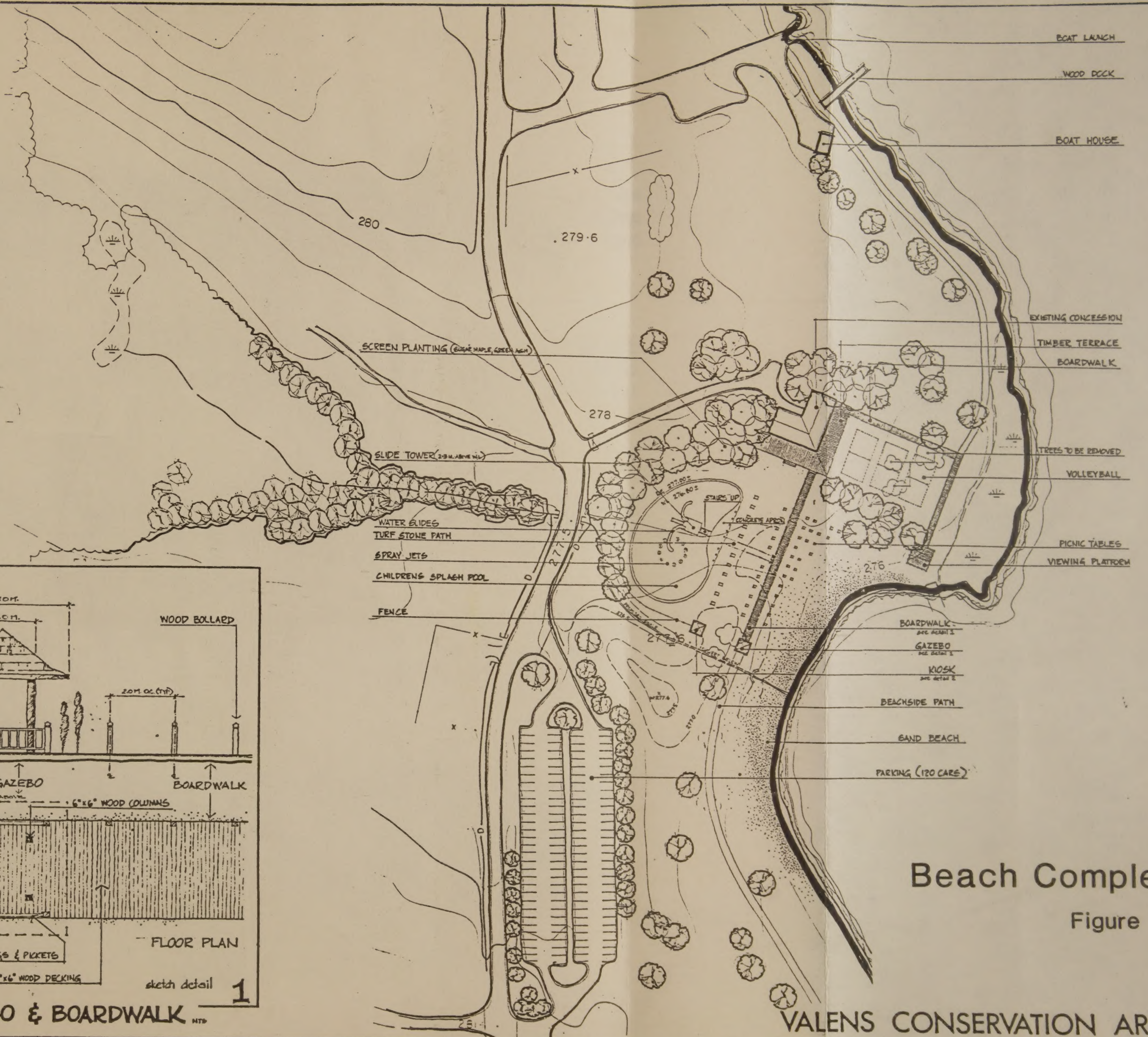
FRONT ELEVATION



SIDE ELEVATION



sketch detail 1
GAZEBO & BOARDWALK NTS



Beach Complex
Figure 12

c) Kiosk

An open air roofed information kiosk (16 m²) will be located near the entrance to the complex. Its purpose will be to display information on activities and facilities located throughout the Conservation Area.

d) Boardwalk

A network of at-grade 4 m wide boardwalks will connect all facilities in the beach and picnic area. Two gazebos (each 16 m²) and a viewing platform will be constructed as part of the boardwalk.

e) Volleyball Courts

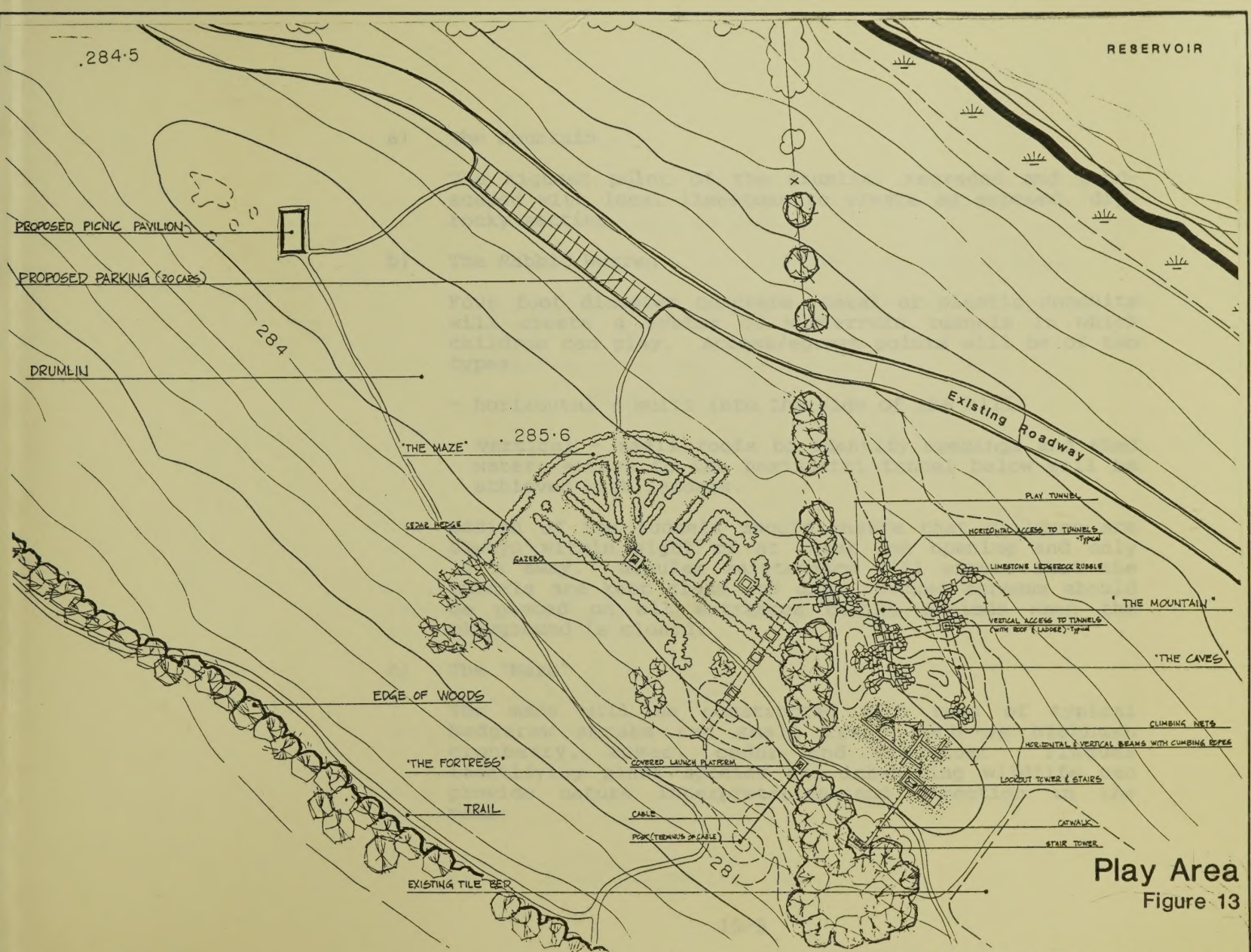
Three volleyball courts will be located immediately east of the beach house. In keeping with the beach theme of these facilities, the playing surfaces will be sand.

f) Beach and Adjacent Swimming Area

No change is proposed. Since the entire beach complex relies on the quality of the beach and adjacent water, priority should be given to its regular maintenance.

3. Play Area (Figure 13)

A new supervised children's adventure playground is proposed. It is located on the drumlin to take advantage of the topography in the design of play spaces. It is centrally located between the campground and the beach. The intent of this facility is to introduce children to various habitats in a play environment. There are four general areas and themes:



Play Area
Figure 13

a) The Mountain

The highest point of the drumlin, regraded and landscaped with local limestone to create an exposed, dry, rocky setting.

b) The Rabbit Warren

Four foot diameter concrete, metal or plastic conduits will create a system of subterranean tunnels in which children can play. Access/egress points will be of two types:

- horizontal - built into the side of the hill;
- vertical - small roofs to identify openings and shed water; access to the horizontal tunnel below will be achieved with ladders.

Design of the tunnels should ensure that children are always within sight of at least one opening and only 10 m away. Regular maintenance will ensure that the tunnels are kept clean and dry. Locked screens should be placed on all entrances during periods when the playground is closed.

c) The "Maze"

The maze will be constructed with rows of typical hedgerow shrubs and small trees such as highbush cranberry, sumac, cedar and viburnum. Plaques identifying plant species and inhabiting wildlife can provide nature interpretation and direction in the maze.

d) The Crow's Nest

This is represented by a complex of wood and rope structures. It offers an opportunity to explore the canopy of trees. Features include:

- vertical posts to 10 m high with horizontal beams;
- rope nets extending from the ground to the horizontal beams;
- a lookout tower with stairway;
- a raised catwalk and stair tower; and
- a pulley ride where children can descend a cable suspended between an upper roofed tower and a post at a lower level.

4. New Picnic Pavilion

A new picnic pavilion (outdoor) is proposed adjacent to the adventure playground. A new 20 space parking lot is proposed to service this area.

5. Special Activities Area

An unprogrammed area for special users is proposed for the northeast portion of the Conservation Area.

This area is separate and contained, suitable for use by groups including:

- o service clubs;
- o scouts, brownies, guides, etc.;

- o handicapped; and
- o social assistance groups.

Facilities could include dining hall, meeting room, amphitheatre, group camping area, picnic pavilion, parking and open play area. The scale and scope of facilities will be determined in conjunction with the user groups.

6. Overnight Camping

There is no change to the number of campsites. Servicing for hydro and water is proposed in 2 phases. In phase 1, 81 sites would be serviced by a pressure storage distribution system and primary distribution hydro line from the existing washroom/shower building. In phase 2, an additional 71 sites would be serviced.

A tennis court and tented play area would be added to the campground (Figure 14).

An area south of the campground along the wooded shore of the reservoir is identified for future expansion of the campground if demand warrants.

7. Indoor Picnic Pavilion (Powell Pavilion)

No change to structure or function.

8. Boat Launch

No change to structure or function.



Tented Recreation Pavilion

Figure 14

VALENS CONSERVATION AREA

HAMILTON REGION CONSERVATION AUTHORITY

9. Maintenance Yard

A maintenance yard will be located in a partly-wooded area northwest of the entrance turn-off from Highway 97. Proposed facilities will include a service access road, parking, a gravel works yard and a storage/maintenance building (200 m²).

11. Fishing Piers

Four new fishing piers are proposed along the west shore of the reservoir to provide more opportunities for fishing.

12. Pedestrian Bridge

No change to structure or function.

13. Observation Towers

No change to towers.

14. Vehicle Circulation

Changes to the existing circulation are summarized as follows:

a) Entrance Drive

The existing entrance gatehouse and boulevard will be removed. The new entrance road will follow the existing route extended east to pass the new administration/orientation complex. A new boulevard will divide traffic around the gatehouse. An intersecting roadway

north of the gatehouse will direct visitors to and from a proposed parking area to the east beside the campers' store. The road access to the main picnic parking lot will be moved to the north side.

b) Works Yard Road

A new service road will be constructed from the entrance drive to the proposed works yard.

15. Parking

Table 19 summarizes changes in parking. Parking south of the log cabin will be eliminated because of the new location of the entrance gate.

An additional 114 parking spaces will be added at three sites: 20 east of the campers' store, 20 west of the new picnic pavilion, and 65 in the special use area northeast of the reservoir. These changes bring the total day use public parking on the site from 470 to 545 vehicles.

Table 19: Existing and Proposed Parking Lot Capacities

Area	Existing	Proposed	Total
A (Main Picnic Parking)	182	0	182
B (Log Cabin)	30+	0	0
C (Campers' Store)	0	20	20
D (Beach)	144	0	144
E (Picnic Pavilion)	44	0	44
F (Baseball Diamond)	30	0	30
G (Boat Launch)	40	0	40
H (Special Use Area)	0	65	65
I (New Picnic Pavilion)	0	20	20
TOTAL	10-9 ⁴⁷⁰	105	545

16. Pedestrian Trails

With the accessibility of the site limited by the truncated vehicular circulation system, the pedestrian trail system becomes important in allowing visitors to explore the site. Priority must be given to providing easy and direct circulation among the four major activity generators of the site: the campground, the beach complex, and the activity area around the children's play barn and adventure playground. It is also important to provide a circular hiking trail around the entire reservoir and marsh. The following summarizes the proposed changes:

- a) 800 m of trail between the campground and the beach area. Most of this trail will follow the existing forest edge. Some sections of boardwalk may be required in wet areas, especially north of the picnic pavilion.
- b) 400 m of trail between the picnic pavilion and the adventure playground. Some raised boardwalk may be required in wet areas.
- c) 1900 m of trail connecting existing trails near the east end of the fishing bridge with the beach boardwalk and running along the southeast portion of the reservoir.
- d) 340 m of trail linking the picnic pavilion to the reservoir trail north of the children's play barn.

Pedestrian trails will be 1 m in width and covered with bark, wood chips or stone dust.

17. Winter Activities

Winter sports will continue to include cross-country skiing and snowshoeing. Such activities may extend the viability of the tea house to winter weekends. It is, therefore, recommended that all winter activities be centred at the administration/tea house complex. A skating surface should be maintained near this complex, instead of near the beach concession.

18. Boating and Canoeing

No change to existing facilities.

19. Programs

a) Information

Information on facilities and activities will be provided to visitors at the entrance gate and in the adjacent administration building. Secondary sources will be:

- the kiosk in the beach area;
- the foyer of the picnic pavilion; and
- the kiosk at the campsite.

b) Natural History Interpretation

Programs have traditionally been geared towards conservation education as part of the Conservation Authority mandate and should continue.

The large areas of marsh and wooded wetland make the area ideal for natural history interpretive programs.

While in the past, no major efforts have been made to establish formal programs, this Plan encourages the establishment of a network of numbered posts or plaques, and a corresponding educational brochure (or series of seasonal brochures) for self-guided tours through the major habitats represented on the site.

20. Resource Management

The most recent Fish and Wildlife Management Plan was produced in 1973; it was directed to the 1974 to 1978 period. All proposed developments described in this Master Plan, with the exception of the special group campground and the minor changes proposed to the existing campsite area, occur outside identified management zones.

No habitat changes will occur with implementation of servicing to the campground; all utilities will follow existing clearings and roadways.

The following habitat improvements were planned in the area of which the proposed special group site is a part.

- a) Planting of clumps of white cedar and highbush cranberry for cover and food.
- b) Planting of sorghum, corn and multi-flora rose hedges for food.
- c) Planting of oats, barley and clover for food.

Since these habitat improvements have been undertaken in other parts of the Conservation Area, it is anticipated that the special proposed group area will have a minimal effect on wildlife food and cover.

The provision of fishing piers along the west shore of the reservoir will increase angling opportunities in the Conservation Area.

Recommendations with regard to hunting are not affected by the proposed developments outlined in this Master Plan.

11. DESIGN GUIDELINES

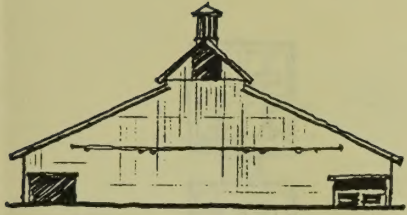
Design guidelines were prepared to guide the detailed design of key site features in accordance with the intent and general principles upon which this master plan was completed. The design of site features should reflect the natural character of the setting. Materials that are characteristic of the site, such as wood (barnboard, split rail fencing) and limestone should be used.

This section describes guidelines to be used in the design of buildings, signage, lighting and landscape.

SITE

Philosophical Goals and Objectives

- o Enhance and promote natural characteristics of the site.
- o Cultivate a sense of discovery of man-made and natural features.
- o Reflect the historical/cultural and heritage character of the area in buildings and landscape elements.
- o Promote the site and facilities as "destination" points; encourage a relaxed environment where users are tempted to linger (delay departure).
- o Plan for movement through the site by establishing site lines to key facilities and encouraging the experience of a variety of landscapes.



1. BUILDING

a) Character

- o rustic
- o historic/rural vernacular
- o organic
- o hand-made
- o solid/massive

b) Form

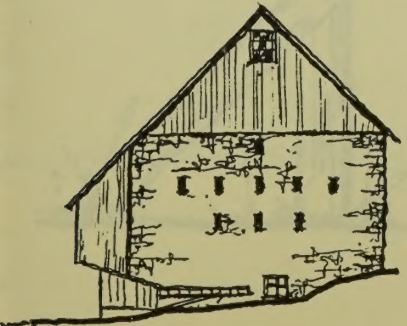
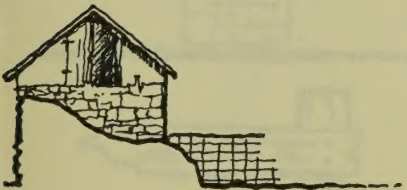
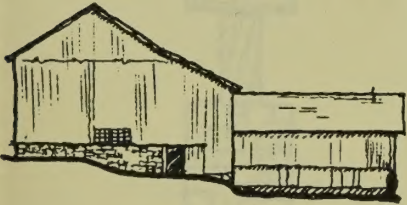
- o cuboid
- o post and beam construction
- o "log cabin"
- o visually "simple"/uncomplicated
- o rectangular/angular (not curvilinear)
- o steep roof pitch

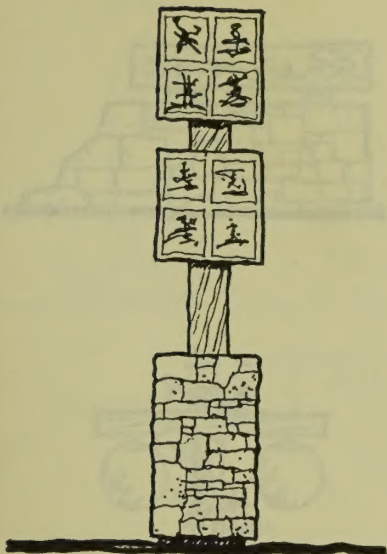
c) Colour

- o earth tones
- o harmonious
- o warm

d) Exterior Finish

- o stone
- o stained wood
- o stucco
- o barnboard





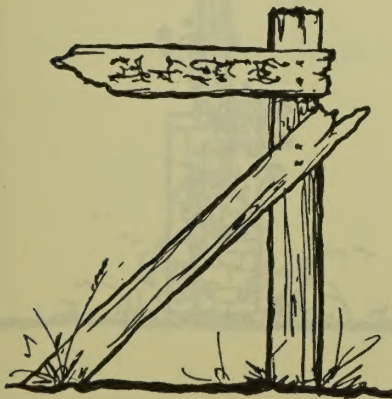
2. SIGNAGE

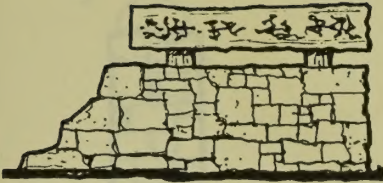
a) Character

- o Clear and uncluttered messages; a well-designed, constructed and located facility will require less signage than a poorly-designed facility.
- o Themed on site character rather than animal figure given human features.
- o Use of symbols wherever possible.
- o Traditional lettering (avoid "High Tech" look).
- o "Rural" - designed for "low speed" traffic and pedestrians.
- o Consistency among all signage types throughout the site.

b) Form

- o Boards and plaques on posts or post markers.
- o Banners may be appropriate in certain areas (e.g. children's activity areas) especially if signage is to be used in association with light standards.
- o When on buildings, signs should be designed as extensions of, or design elements within (e.g. awnings, corner sign projections).
- o Avoid loud internally-lit signs characteristic of fast food outlets - prefer externally lit signage or subdued internal lighting.





c) Colour

- o Natural colours with balanced contrasting colours for logos, letters and symbols.

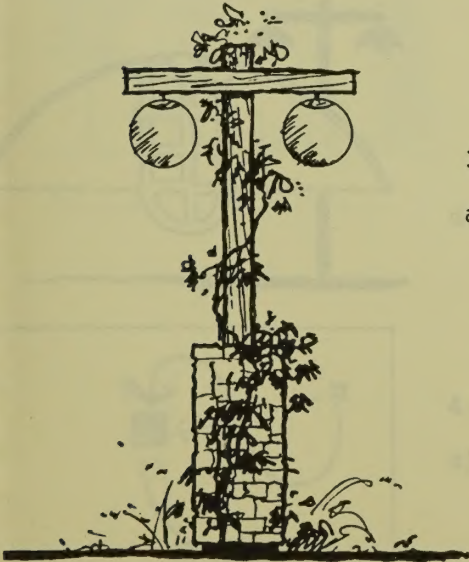
d) Materials

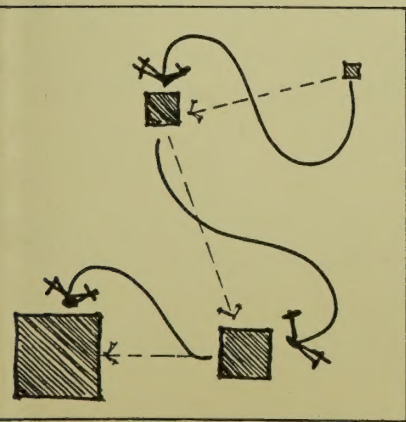
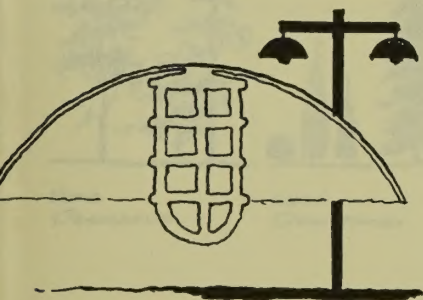
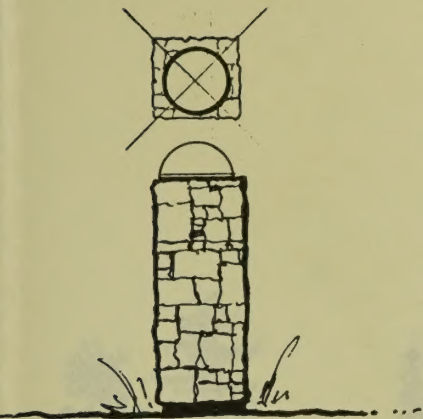
- o wood
- o stone
- o anodized metal
- o "real" material - honest look (e.g. brown plastic signs made to look like stained wood cheapen the character of a site)

3. LIGHTING

a) Character

- o Opportunity to provide a strong unifying element throughout the site with light fixtures and standards.
- o Avoid solid and heavy standards that draw too much attention to themselves.
- o Avoid period reproductions since they may evoke more historic mood than is desirable in a place that should read more or less as timeless or at least time - specific in character.





b) Form

- o Simple metal, or wood and metal.
- o No strong ornamentation.
- o As much as possible "pedestrian" in scale even when located along roadways.

c) Colour

- o Standards: "Background", muted or otherwise organic colours; avoid bright colours.
- o Light: Suggest no special treatment of conventional lighting source unless it is subtle; since most outdoor lighting will be for orientation and navigation. Maximum bright may seem desirable but avoid the "stadium light" effect.

d) Finish

- o Paint or stain (as appropriate).
- o Low maintenance.

4. LANDSCAPE

a) Circulation

- o Organize circulation routes along strong site lines between key visual elements.
- o Should proceed along long lines and graceful curves; curvilinear in character; avoid straight lines unless for boardwalks.

b) Planting



- o Indigenous species.
- o Avoid formal plant materials (e.g. blue spruce, globe cedar, mountbatton juniper).
- o Wherever possible, let natural succession occur.
- o Use plants for year-round colour, interest and variety.
- o Use plants to help control snow drifting along roads and paths.
- o Use wild flowers/native grasses to reduce long-term maintenance.
- o Use plant material that attracts wildlife, eg. highbush cranberry (*Viburnum opulus*), nannyberry (*Viburnum lentago*), dogwood (*Cornus* sp.) sumac (*Rhus typhina*).
- o Existing plantations should be opened up to encourage natural succession.

The following are suggested plant associations for landscape treatment:

1. Upland

a) Hedgerows and Fencelines

- . highbush cranberry (*Viburnum opulus*)
- . hawthorn (*Crataegus* sp.)
- . Manitoba maple (*Acer negundo*)
- . sumac (*Rhus typhina*)
- . cedar (*Thuja occidentalis*)

- . wild grape (*Vitis* sp.)
- . Virginia creeper (*Parthenocissus tricuspidata*)
- . dogwood (*Cornus* sp.)

b) Entrance Drive

- . sugar maple (*Acer saccharum*)
- . basswood (*Tilia americana*)
- . red maple (*Acer rubrum*)
- . beech (*Fagus grandifolia*)

c) South and West Forest Edges

- . sumac (*Rhus typhina*)
- . aspen (*Populus tremuloides*)
- . poplar (*Populus* sp.)
- . white pine (*Pinus strobus*)
- . dogwood (*Cornus* sp.)

East and North Forest Edges

- . alder (*Alnus rugosa*)
- . highbush cranberry (*Viburnum opulus*)
- . dogwood (*Cornus* sp.)
- . witch hazel (*Hamamelis virginiana*)
- . blue beech (*Carpinus caroliniana*)

d) Upland Forest

- . sugar maple (*Acer saccharum*)
- . green ash (*Fraxinus pennsylvanica*)
- . beech (*Fagus grandifolia*)
- . basswood (*Tilia americana*)
- . white pine (*Pinus strobus*)
- . eastern hemlock (*Tsuga canadensis*)

e) Farmstead

- . lilac (*Syringa* sp.)
- . viburnum (*Viburnum* sp.)
- . spirea (*Spiraea* sp.)
- . hydrangea (*Hydrangea* sp.)
- . shrub roses (*Rosa* sp.)
- . apple (*Malus* sp.)

2. Riparian and Lowland

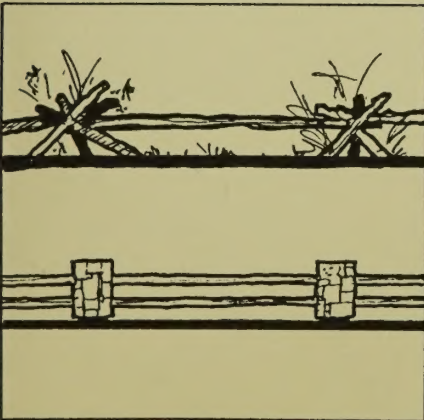
- . willow (*Salix* sp.)
- . elder (*Sambucus canadensis*)
- . alder (*Alnus rugosa*)
- . cedar (*Thuja* sp.)
- . dogwood (*Cornus* sp.)

3. Wetland

- . cattails
- . bullrush
- . yellow pondlily
- . horsetail rushes

c) Barriers

- o Avoid clipped hedges in place of fences since these are too formal for most sites.
- o Fences should be compatible with buildings and rural landscape.
- o If chain link fences must be used, then should be planted with native shrubs and/or vines (e.g. wild grape, Virginia creeper).
- o Post and cable should be installed along site access roads.



12. PRELIMINARY CAPITAL COST ESTIMATES

Capital cost estimates for the key Master Plan components are based on the 1987 market value of construction. At the time of site design, tendering and construction, revisions to costs will be required. These estimates are approximate and will vary depending on the market value of construction.

TABLE 11
PRELIMINARY CAPITAL COST ESTIMATES

<u>Project</u>	<u>Description</u>	<u>Size</u>	<u>Unit Cost</u>	<u>Preliminary Capital Cost</u>
1. Entrance Improvements				
a) demolish existing gatehouse				\$ 2,000
b) new gatehouse	- stone and timber building	25 m ²	\$675/m ²	16,875
	- overhead trellis connecting to stone house			5,000
c) new road	- road realilgnment	250 m ²	\$300/m ²	75,000
	- paved, gravel shoulder			
	- two lane			
	- shade trees lining edge	96	\$250	24,000
1. SUB-TOTAL				122,875

TABLE 11
PRELIMINARY CAPITAL COST ESTIMATES
(continued)

	<u>Project</u>	<u>Description</u>	<u>Size</u>	<u>Unit Cost</u>	<u>Preliminary Capital Cost</u>
2.	Administration Building	- renovate interior of stone house to provide administration headquarters, tea house	280 m ²	\$804/m ²	225,120
		- landscape treatment			\$ 5,000
		- stone terrace	60 m ²	\$87/m ²	5,220
		- lattice privacy screen	16 m ²	\$112/m ²	1,792
		2. SUB-TOTAL			237,132
3.	Children's Play Barn and Silo	- flagpoles	3	\$1,500	4,500
		- bollards	8	\$200	1,600
		- crushed stone path/circulation areas	2500 m ²	\$15/m ²	37,500
		- renovate barn structure			125,000
		- add play equipment			50,000
		- build silo with slide and catwalks			100,000
		petting farm fence	45 m	\$33/m	1,485

TABLE 11
PRELIMINARY CAPITAL COST ESTIMATES
(continued)

<u>Project</u>	<u>Description</u>	<u>Size</u>	<u>Unit Cost</u>	<u>Preliminary Capital Cost</u>
	- renovate storage building to picnic pavilion			2,500
		3.	SUB-TOTAL	322,585
4. Camper's Store	- renovate interior of stone building	70 m ²	\$535/m ²	\$ 37,450
	- add gravel illuminated parking lot	11 spaces	\$1,000/sp	11,000
	- add gravel entrance road	200 m ²	\$15/m ²	3,000
		4.	SUB-TOTAL	51,450
5. Beach Area Improvements				
a) Children's splash pool	- concrete shallow slop-pool	750 m ²	lump sum	300,000
	- slides, water jets		lump sum	50,000
	- regrading	1000 m ²	\$2.50/m ²	2,500
	- landscaping	30 trees	\$250 each	7,500
b) boardwalk	- timber	700 m ²	\$150/m ²	105,000
	- kiosk	16 m ²	lump sum	5,000
	- gazebo	16 m ²	lump sum	8,000

TABLE 11
PRELIMINARY CAPITAL COST ESTIMATES
(continued)

<u>Project</u>	<u>Description</u>	<u>Size</u>	<u>Unit Cost</u>	<u>Preliminary Capital Cost</u>
c) volleyball courts	- sand surface	3	\$1,000	3,000
5. SUB-TOTAL				481,000
6. Adventure Playground				
a) site preparation	- grading and surface treatment		lump sum	30,000
b) the mountain	- limestone ledgerock	600 m ²		10,000
	- regrading	600 m ²	\$5.00/m ²	3,000
c) Rabbit Warren	- vertical entrances: peaked roof; ladder	7	lump sum	10,000
	- horizontal entrance	5	lump sum	5,000
	- tunnel	140 m long 1.5 m dia.	\$250/m	35,000
	- entrance screens	12	lump sum	5,000
d) maze	- hedgerows	400 m	\$50/m	20,000
	- interpretive signs	10	\$200	2,000

TABLE 11
PRELIMINARY CAPITAL COST ESTIMATES
(continued)

<u>Project</u>	<u>Description</u>	<u>Size</u>	<u>Unit Cost</u>	<u>Preliminary Capital Cost</u>
e) crow's nest	- tower with roof	10 m ht.		20,000
	- catwalk	34 m ²	lump sum	15,000
	- play structure	14 beams 9 posts	lump sum	9,500
	- nets/ropes			6,000
	- pulley swing			3,000
f) new picnic pavilion	- with washrooms		lump sum	\$100,000
g) parking lot	- gravel surface	20 spaces	\$800/sp.	16,000
6. SUB-TOTAL				\$289,500
7. Campground Improvements				
a) servicing	- hydro	phase 1- 81 sites		113,000
		Phase 2- 71 sites		85,000
	- water	phase 1- 81 sites		129,000
		phase 2- 71 sites		76,000
b) tented recreation pavilion	- canvas tented play area	300 m ²		5,000

TABLE 11
PRELIMINARY CAPITAL COST ESTIMATES
(continued)

<u>Project</u>	<u>Description</u>	<u>Size</u>	<u>Unit Cost</u>	<u>Preliminary Capital Cost</u>
c) tennis court	- asphalt - illuminated	1		25,000
7. SUB-TOTAL				\$433,000
8. Fishing piers	- four wood floating piers	15 x 3 m each	\$275/m ²	49,500
9. Trails	- stone dust	3000 m	\$21/m	63,000
10. Maintenance Yard	- new storage maintenance building	200 m ²	\$452 m ²	90,400
	- gravel works yard	1400 m ²	\$15/m ²	21,000
	- new service entrance; gravel, 2 lane	150 m x 8 m	\$15/m ²	18,000
10. SUB-TOTAL				\$241,900
1 - 10. SUB-TOTAL				\$2,179,442
(15%) CONTINGENCIES				\$325,000
SUB TOTAL				\$2,504,442
(10%) PROFESSIONAL FEES				\$250,000
GRAND TOTAL				<u>\$2,754,442</u>

13. IMPLEMENTATION SCHEDULE

An implementation schedule for site development was established to:

- o give priority to key development components
- o provide infrastructure in order of a logical development sequence
- o spread capital costs over five years

Table 12 summarizes the suggested project phasing for key development components.

TABLE 12
IMPLEMENTATION SCHEDULE

Project	Y E A R					Capital Cost
	1	2	3	4	5	
1. Entrance Improvements	o	o				\$ 122,875
. demolish existing gatehouse						
. build new gatehouse						
. build new road						
2. Administration Building	o	o				237,132
3. Children's Play Barn and Silo		o	o			322,585
4. Camper's Store			o			51,450
5. Beach Area Improvements		o	o			481,000
. children's splash pool						
. boardwalk						
. volleyball courts						
6. Adventure Playground			o	o	o	289,500
. site preparation						
. the mountain						
. rabbit warren						
. maza						
. crow's nest						
. new picnic pavilion						
. parking lot						

TABLE 12
IMPLEMENTATION SCHEDULE
(continued)

Project	Y E A R					Capital Cost
	1	2	3	4	5	
7. a) Campground - Phase 1 . servicing (81 sites) . tented recrea- tion pavilion . tennis court	o					\$ 272,000
b) Campground - Phase 2 . servicing (71 sites)			o			161,000
8. Fishing Piers	o					49,500
9. Trails	o	o	o	o	o	63,000
10. Maintenance Yard	o	o				129,400
TOTAL COST BY PHASE	578,805	718,595	663,842	109,100	109,100	2,179,442
CONTINGENCIES & PROFESSIONAL FEES						575,000
GRAND TOTAL						<u>\$2,754,442</u>





